United Nations FCCC/ARR/2017/FRA

Framework Convention on Climate Change

Distr.: General
12 April 2018

English only

Report on the individual review of the annual submission of France submitted in 2017*

Note by the expert review team

Summary

Each Party included in Annex I to the Convention must submit an annual greenhouse gas (GHG) inventory covering emissions and removals of GHG emissions for all years from the base year (or period) to two years before the inventory due date (decision 24/CP.19). Parties included in Annex I to the Convention that are Parties to the Kyoto Protocol are also required to report supplementary information under Article 7, paragraph 1, of the Kyoto Protocol with the inventory submission due under the Convention. This report presents the results of the individual inventory review of the 2017 annual submission of France, conducted by an expert review team in accordance with the "Guidelines for review under Article 8 of the Kyoto Protocol". The review took place from 4 to 9 September 2017.

* In the symbol for this document, 2017 refers to the year in which the inventory was submitted, not to the year of publication.

GE.18-05805(E)

1805805

Please recycle

Contents

		Paragraphs	*Page*
	Abbreviations and acronyms		3
I.	Introduction	1–5	5
II.	Summary and general assessment of the 2017 annual submission	6	6
III.	Status of implementation of issues and/or problems raised in the previous review report	7	8
IV.	Issues identified in three successive reviews and not addressed by the Party	8	32
V.	Additional findings made during the 2017 individual inventory review	9–10	34
VI.	Application of adjustments	11	53
VII.	Accounting quantities for activities under Article 3, paragraph 3, and, if any, activities under Article 3, paragraph 4, of the Kyoto Protocol	12	53
VIII.	Questions of implementation	13	53
Annexes			
I.	Overview of greenhouse gas emissions and removals for France for submission year 2017 and data and information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, as submitted by France		54
II.	Information to be included in the compilation and accounting database		58
III.	Additional information to support findings in table 2		60
IV.	Documents and information used during the review		61

Abbreviations and acronyms

2006 IPCC Guidelines	*2006 IPCC Guidelines for National Greenhouse Gas Inventories*
AAU	assigned amount unit
AD	activity data
AR	afforestation and reforestation
Annex A sources	source categories included in Annex A to the Kyoto Protocol
Article 8 review guidelines	"Guidelines for review under Article 8 of the Kyoto Protocol"
B_o	maximum methane producing capacity
BOF	basic oxygen furnace
CER	certified emission reduction
CFOA	conversion factor of organic amendment
CH_4	methane
CITEPA	Centre Interprofessionnel Technique d'Etudes de la Pollution Atmosphérique (Interprofessional Technical Centre for Studies on Air Pollution)
CM	cropland management
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CH_4	methane
CPR	commitment period reserve
CRF	common reporting format
DOC	degradable organic carbon
DOC_f	fraction of degradable organic carbon which decomposes
DOM	dead organic matter
EAF	electric arc furnace
EF	emission factor
ERT	expert review team
ERU	emission reduction unit
EU	European Union
EU ETS	European Union Emissions Trading System
FM	forest management
FMRL	forest management reference level
GHG	greenhouse gas
GM	grazing land management
HFC	hydrofluorocarbon
HWP	harvested wood products
IE	included elsewhere
IEF	implied emission factor
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance for LULUCF	*IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry*
IPPU	industrial processes and product use
ITOM	installations de traitement des ordures ménagères (household waste treatment facilities)
KP-LULUCF activities	activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol
Kyoto Protocol Supplement	*2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*

kt	kilotonne
LKD	lime kiln dust
LULUCF	land use, land-use change and forestry
MCF	methane correction factor
MMS	manure management system
MONDFERENT	Matière Organique Non Digestible et FERmentation ENTerique (study on non-digestible organic matter and integral fermentation)
Mt	million tonnes
N	nitrogen
N_2	nitrogen gas
NA	not applicable
NE	not estimated
NFI	national forest inventory
NH_3	ammonia
NIR	national inventory report
NO	not occurring
NO_X	nitrogen oxides
N_2O	nitrous dioxide
OX	oxidation factor
PFC	perfluorocarbon
PPSR	previous period surplus reserve
PTOM	pays et territoires d'outre-mer (overseas countries and territories)
QA/QC	quality assurance/quality control
RMU	removal unit
RV	revegetation
SEF	standard electronic format
SIAR	standard independent assessment report
SF_6	sulphur hexafluoride
SOC	soil organic carbon
SWDS	solid waste disposal site
TERUTI	survey on land use
UNFCCC	United Nations Framework Convention on Climate Change
UNFCCC Annex I inventory reporting guidelines	"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories"
UNFCCC review guidelines	"Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention"
VS	volatile solids
WDR	wetland drainage and rewetting
Wetlands Supplement	*2013 Supplement to the 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories: Wetlands*

I. Introduction[1]

1. This report covers the review of the 2017 annual submission of France organized by the secretariat, in accordance with the Article 8 review guidelines (decision 22/CMP.1, as revised by decision 4/CMP.11). In accordance with the Article 8 review guidelines, this review process also encompasses the review under the Convention as described in the UNFCCC review guidelines, particularly in part III thereof, namely the "UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention" (decision 13/CP.20). The review took place from 4 to 9 September 2017 and was coordinated by Ms. Kyoko Miwa (secretariat). Table 1 provides information on the composition of the ERT that conducted the review of France.

Table 1
Composition of the expert review team that conducted the review of France

Area of expertise	*Name*	*Party*
Generalist	Mr. Tomas Gustafsson	Sweden
	Ms. Elsa Hatanaka	Japan
Energy	Ms. Melanie Hobson	United Kingdom of Great Britain and Northern Ireland
	Ms. Lungile Manzini	South Africa
IPPU	Ms. Niculina Mihaela Balanescu	Romania
	Mr. David Kuntze	Germany
Agriculture	Ms. Marci Baranski	United States of America
	Mr. Braulio Pikman	Brazil
	Mr. Juan José Rincón Cristóbal	Spain
LULUCF	Mr. Viorel Nelu Bellmondo Blujdea	Romania
	Mr. Atsushi Sato	Japan
Waste	Mr. Qingxian Gao	China
	Mr. Hans Oonk	Netherlands
Lead reviewers	Mr. Gao	
	Mr. Kuntze	

2. The basis of the findings in this report is the assessment by the ERT of the consistency of the Party's 2017 annual submission with the Article 8 review guidelines. The ERT has made recommendations that France resolve the findings related to issues,[2] including issues designated as problems.[3] Other findings, and, if applicable, encouragements of the ERT to France to resolve them, are also included.

3. A draft version of this report was communicated to the Government of France, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

[1] At the time of publication of this report, France had submitted its instrument of ratification of the Doha Amendment; however, the amendment had not yet entered into force. The implementation of the provisions of the Doha Amendment is therefore considered in this report in the context of decision 1/CMP.8, paragraph 6, pending the entry into force of the amendment.

[2] Issues are defined in decision 13/CP.20, annex, paragraph 81.

[3] Problems are defined in decision 22/CMP.1, annex, paragraphs 68 and 69, as revised by decision 4/CMP.11.

4. Annex I shows annual GHG emissions for France, including totals excluding and including the LULUCF sector, indirect CO_2 emissions and emissions by gas and by sector. Annex I also contains background data related to emissions and removals from KP-LULUCF activities, if elected, by gas, sector and activity for France.

5. Information to be included in the compilation and accounting database can be found in annex II.

II. Summary and general assessment of the 2017 annual submission

6. In accordance with paragraph 76 of the UNFCCC review guidelines and paragraphs 47 and 65 of the Article 8 review guidelines, the ERT has prioritized: the review of issues and/or problems identified in previous review reports or in the initial assessment; recalculations in the latest submission that have changed the emissions or removals estimate for a category by more than 2 per cent and/or national total emissions by more than 0.5 per cent for any of the recalculated years; and supplementary information reported under the Kyoto Protocol. Table 2 provides the assessment by the ERT of the annual submission with respect to the tasks undertaken during the desk review. Further information on the issues identified, as well as additional findings, may be found in tables 3, 5 and 6.

Table 2
Summary of review results and general assessment of the inventory of France

Assessment				*Issue or problem ID#(s) in table 3, 5 and or 6[a]*
Dates of submission	Original submission: 8 April 2017 (NIR), 13 April 2017, Version 2 (CRF tables), 13 April 2017 (SEF-CP2-2016) and 1 June 2017 (SEF-CP1-2016) Revised submission: 22 October 2017, Version 3 (CRF tables), 8 May 2017 (SEF-CP2-2016) Unless otherwise specified, the values from the latest submission are used in this report			
Review format	Desk review			
Application of the requirements of the UNFCCC Annex I inventory reporting guidelines and Wetlands Supplement (if applicable)	1. Have any issues been identified in the following areas:			
		(a) Identification of key categories	Yes	G.3
		(b) Selection and use of methodologies and assumptions	Yes	I.10, I.14, A.19, A.26, A.28, L.26, W.10, W.14, W.15, W.16, KL.17
		(c) Development and selection of EFs	Yes	E.4, E.10, I.13, L.10, W.8, W.16
		(d) Collection and selection of AD	Yes	E.7, E.13, I.9, A.24, A.26, I.14, L.11, L.27, L.33, W.13
		(e) Reporting of recalculations	Yes	I.3, I.8, I.9, L.32
		(f) Reporting of a consistent time series	Yes	I.2, KL.4
		(g) Reporting of uncertainties, including methodologies	Yes	G.7, L.3, L.6
		(h) QA/QC	QA/QC procedures were assessed in the context of the national system	

Assessment			*Issue or problem ID[a](s) in table 3, 5 and/or 6[a]*
			(see para. 2 in this table)
	(i) Missing categories/completeness[b]	Yes	E.15, E.26, E.28, A.27, A.28, L.2, L.14, L.18, L.19, L.20, L.21, L.25, L.28, KL.2, KL.10
	(j) Application of corrections to the inventory	No	
Significance threshold	For categories reported as insignificant, has the Party provided sufficient information showing that the likely level of emissions meets the criteria in paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines?	No	G.13, E.15
Description of trends	Did the ERT conclude that the description in the NIR of the trends for the different gases and sectors is reasonable?	No	I.2, I.8
Supplementary information under the Kyoto Protocol	2. Have any issues been identified related to the national system:		
	(a) The overall organization of the national system, including the effectiveness and reliability of the institutional, procedural and legal arrangements	No	
	(b) Performance of the national system functions	No	
	3. Have any issues been identified related to the national registry:		
	(a) Overall functioning of the national registry	No	
	(b) Performance of the functions of the national registry and the technical standards for data exchange	No	
	4. Have any issues been identified related to reporting of information on ERUs, CERs, AAUs and RMUs and on discrepancies reported in accordance with decision 15/CMP.1, annex, chapter I.E, taking into consideration any findings or recommendations contained in the standard independent assessment report?	Yes	G.10, G.14
	5. Have any issues been identified in matters related to Article 3, paragraph 14, of the Kyoto Protocol, specifically problems related to the transparency, completeness or timeliness of reporting on the Party's activities related to the priority actions listed in decision 15/CMP.1, annex, paragraph 24, including any changes since the previous annual submission?	No	
	6. Have any issues been identified related to the reporting of LULUCF activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, as follows:		
	(a) Reporting requirements in decision 2/CMP.8, annex II, paragraphs 1–5	Yes	KL.2, KL.3, KL.4, KL.5, KL.10, KL.11, KL.18, KL.19, KL.21, KL.22
	(b) Demonstration of methodological consistency between the reference level and reporting on FM in accordance with decision 2/CMP.7, annex,	Yes	KL.7, KL.12, KL.13, KL.14, KL.15, KL.17

Assessment			*Issue or problem ID[a](s) in table 3, 5 and or 6[a]*
	paragraph 14		
	(c) Reporting requirements of decision 6/CMP.9	Yes	KL.19
	(d) Country-specific information to support provisions for natural disturbances, in accordance with decision 2/CMP.7, annex, paragraphs 33 and 34	Yes	KL.7, KL.12
CPR	Was the CPR reported in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1 and decision 1/CMP.8, paragraph 18?	Yes	
Adjustments	Has the ERT applied an adjustment under Article 5, paragraph 2, of the Kyoto Protocol?	No	
	Did the Party submit a revised estimate to replace a previously applied adjustment?	NA	France does not have a previously applied adjustment
Response from the Party during the review	Has the Party provided the ERT with responses to the questions raised, including the data and information necessary for the assessment of conformity with the UNFCCC Annex I inventory reporting guidelines and any further guidance adopted by the Conference of the Parties?	Yes	
Recommendation for an exceptional in-country review	On the basis of the issues identified, does the ERT recommend that the next review be conducted as an in-country review?	No	
Questions of implementation	Did the ERT list questions of implementation?	No	

[a] The ERT identified additional issues and/or problems in the general, industrial processes and product use, agriculture, LULUCF and waste sectors and for KP LULUCF activities that are not listed in this table but are included in table 3, 5 and/or 6.

[b] Missing categories for which methods are provided in the 2006 IPCC Guidelines may affect completeness and are listed in annex III.

III. Status of implementation of issues and/or problems raised in the previous review report

7. Table 3 compiles all the recommendations made in previous review reports that were included in the previous review report, published on 26 July 2017.[4] For each issue and/or problem, the ERT specified whether it believes the issue and/or problem has been resolved by the conclusion of the review of the 2017 annual submission and provided the rationale for its determination, which takes into consideration the publication date of the previous review report and national circumstances.

[4] FCCC/ARR/2016/FRA.

Table 3
Status of implementation of issues and/or problems raised in the previous review report of France

ID#	*Issue and/or problem classification*[a]	*Recommendation made in previous review report*	*ERT assessment and rationale*
General			
G.1	NIR (G.4, 2016) (G.4, 2015) (16, 2014) Transparency	Clearly explain the methodologies and the sources of data used for each part of the French metropolitan and overseas territories.	Addressing. There are still unresolved issues (see ID# W.1 below).
G.2	NIR (G.6, 2016) (G.6, 2015) (18, 2014) Transparency	Remove misleading parameters and equations (not actually used in the inventory) for the LULUCF and waste sectors from the NIR and include more accurate explanations of the country-specific methods, as well as more detailed information on AD.	Addressing. There are still unresolved issues (see ID#s L.1 and W.1 below).
G.3	Key category analysis (G.9, 2016) (G.9, 2015) (23, 2014) (20, 2013) Adherence to the UNFCCC Annex I inventory reporting guidelines	Correct the information in CRF table NIR-3 and improve the description of the key category analysis for KP-LULUCF activities.	Addressing. Information in CRF table NIR-3 were corrected; however, no description was provided in the NIR of KP-LULUCF key categories and how they were identified.
G.4	Key category analysis (G.15, 2016) (G.15, 2015) Adherence to the UNFCCC Annex I inventory reporting guidelines	Include the key category analysis for the base year in the NIR.	Resolved. This was included in the NIR (annex 1, tables 141. 144 and 147).
G.5	Key category analysis (G.16, 2016) (G.16, 2015) Adherence to the UNFCCC Annex I inventory reporting guidelines	Include a summary table with key categories identified in the NIR, as required by paragraph 50(d)(i) of the UNFCCC Annex I inventory reporting guidelines.	Resolved. The table was included in the NIR (section 1.5.3).
G.6	Uncertainty analysis (G.10, 2016) (G.10, 2015) (24, 2014) (21, 2013) (25, 2012) Adherence to the UNFCCC Annex I inventory reporting guidelines	Use a higher level of disaggregation of categories for the uncertainty analysis.	Resolved. The aggregated other emission sources category in the 2016 submission is now broken down into respective subcategories; for example, CO_2 emissions from liming under the agriculture sector (3.G), other sectors – solid fuels under the energy sector (1.A.4) and SF_6 emissions under other product manufacture and use under the IPPU sector (2.G), as set out in NIR tables 155 and 156.

ID#	*Issue and or problem classification[a]*	*Recommendation made in previous review report*	*ERT assessment and rationale*
G.7	Uncertainty analysis (G.18, 2016) (G.18, 2015) Transparency	Transparently report the information and assumptions used when defining the uncertainty of AD and EFs in line with the 2006 IPCC Guidelines (vol. 1, chapter 3.5).	Not resolved. The Party launched a review of the uncertainties of AD and EFs and made improvements; however, the results are not reflected in the NIR section 1.6 or in annex 7 to the 2017 submission.
G.8	Uncertainty analysis (G.19, 2016) (G.19, 2015) Transparency	Include an uncertainty analysis of the base year in the NIR.	Resolved. This was included in NIR table 156.
G.9	National system (G.12, 2016) (G.12, 2015) (20, 2014) (18, 2013) (19, 2012) Adherence to reporting guidelines under Article 7, paragraph 1, of the Kyoto Protocol	Enhance the national system so that it is able to address the reiterated recommendations made in the 2014 review report and previous review reports.	Resolved. The ERT noted that the specific issues (2016 annual review report ID#s G.1, G.2, G.3 and G.5) are resolved.
G.10	National registry (G.22, 2016) (G.22, 2015) Comparability	The ERT recommends that France establish a PPSR as soon as technically possible, which the ERT assumes will be prior to the 2017 annual submission.	Not resolved. The EU legislative framework introducing the PPSR account type will only become applicable after the Doha Amendment to the Kyoto Protocol enters into force. France and other EU member States will not open PPSR accounts until then.
G.11	Other (G.20, 2016) (G.20, 2015) Adherence to the UNFCCC Annex I inventory reporting guidelines	Revise the notation keys used in CRF table 6 in line with the UNFCCC Annex I inventory reporting guidelines, annex I, paragraph 37.	Resolved. The notation keys in CRF table 6 were revised.
G.12	Other (G.21, 2016) (G.21, 2015) Adherence to the UNFCCC Annex I inventory reporting guidelines	Report a completed CRF table 9 and include in the NIR information and explanations in relation to categories that are reported as "NE" or "IE", in line with paragraph 50(f) of the UNFCCC Annex I inventory reporting guidelines.	Resolved. NIR section 1.7 and CRF table 9 were revised and the information provided.
Energy			
E.1	1. General (energy sector) (E.1, 2016) (E.1, 2015) (30 and 38, 2014) Adherence to the UNFCCC Annex I inventory reporting	Provide in the NIR the data on recalculations between the latest previous annual submission and the most recent submission (clearly indicating the dates of submission), so that there is as much consistency as possible between the CRF tables and the NIR.	Resolved. Information on recalculations was provided in the NIR in the relevant chapters.

ID[a]	Issue and or problem classification[b]	Recommendation made in previous review report	ERT assessment and rationale
	guidelines		
E.2	1. General (energy sector) (E.18, 2016) (E.18, 2015) Transparency	Provide in the NIR the conversion factors used to transform the values in the original source of AD into the AD used in the estimates and also provide the results of the conversion.	Addressing. The ERT noted that the conversion factors were presented in the NIR for some categories, such as category 1.B.2.a. The Party explained during the review that it will endeavour to take into account this recommendation for the improvement of unit management in the next NIR and to increase transparency and consistency between the NIR and the CRF tables by using t and kt instead of Mg and Gg and by adding conversion factors when the AD unit reported in the CRF tables is different from that in the NIR.
E.3	1. General (energy sector) (E.20, 2016) (E.20, 2015) Transparency	Provide separately in the NIR the AD used in the energy sector categories for the overseas territories under the Convention and the Kyoto Protocol, respectively.	Resolved. This information was provided in the OMINEA report (CITEPA, 2017, pp.283 and 632) that was submitted in 2017 to the UNFCCC alongside the NIR and the CRF tables.
E.4	1. General (energy sector) (E.21, 2016) (E.21, 2015) Adherence to the UNFCCC Annex I inventory reporting guidelines	For fuels used in the activities which are key in the French GHG inventory, determine country-specific values for the CO_2 EFs (e.g. for gasoline and diesel oil used in road transportation).	Addressing. The NIR (section 3.2.7.6, p.193) states that measures to determine a CO_2 EF specific to France for road transport will be conducted in 2017, and the results will be finalized for the submission of the inventory in 2019. However, no information was provided on actions for other categories or fuels.
E.5	Feedstocks, reductants and other non-energy use of fuels (E.7, 2016) (E.7, 2015) (36, 2014) (36 and 37, 2013) Transparency	Include in CRF table 1.A(d) information on where the associated CO_2 emissions from non-energy use of fuels are reported.	Not resolved. The information is still missing from CRF table 1.A(d). During the review France indicated that this is probably because of a technical problem when transferring the information between the Party's files and CRF Reporter.
E.6	Feedstocks, reductants and other non-energy use of fuels – solid fuels – CO_2 (E.26, 2016) (E.26, 2015) Accuracy	Correct the assumption that all coking coal is used as a non-energy use of fuel and report the quantities of the transformed fuels from this primary fuel which are used for non-energy purposes, such as coke-oven coke or coke-oven gas.	Resolved. Changes were made to CRF table 1.A(d) and information provided in the NIR (section 3.2.1, p.109).
E.7	Fuel combustion – reference approach – solid and other fossil fuels – CO_2 (E.22, 2016) (E.22, 2015) Comparability	(a) Subtract the non-energy use of the fuels in the reference approach to have a consistent comparison with the sectoral approach; and (b) properly identify and allocate the emissions from the industrial gases by origin from the primary fuels, in line with the 2006 IPCC Guidelines and avoiding double accounting, and provide relevant explanations in the NIR.	Addressing. Corrections were made to the CRF tables and information provided in the NIR (section 3.2.1). However, the ERT noted that, according to CRF table 1.A(c), the difference in energy consumption for solid fuels between the sectoral approach (274.46 PJ) and the reference approach (388.55 PJ) is 41.6 per cent for 2015. During the review the Party explained that this question is under investigation with the statistical office, although it is confident that there is no

ID#	Issue or 'or problem classification'	Recommendation made in previous review report	ERT assessment and rationale
			omission or double counting of emissions in the inventory sectoral approach since solid fuels are mainly consumed by industries that are covered by the EU ETS (which are taken into account in the inventory on the basis of their annual ETS reporting in the national registry). However, the ERT also noted that the Party did not provide a sufficient reason for the difference and informed the ERT that this issue is under investigation.
E.8	International bunkers and multilateral operations – liquid fuels (E.24, 2016) (E.24, 2015) Transparency	Explain in the NIR the discrepancies between the sectoral and the reference approaches for international aviation (jet kerosene) and international navigation (residual fuel oil and gas/diesel oil) reported in the CRF tables.	Not resolved. An explanation of discrepancies was not provided in the NIR. The NIR states that this is under investigation and a response will be provided when available.
E.9	1.A.1.c Manufacture of solid fuels and other energy industries – solid fuels and biomass – CO_2 (E.27, 2016) (E.27, 2015) Transparency	Correct the information about the tier used (in both the NIR and CRF table summary 3) and provide in the NIR a complete explanation on how CO_2 emissions are estimated for the fuels used.	Resolved. The information was provided in the NIR (section 3.2.5, p.131). No errors were identified in CRF table summary 3.
E.10	1.A.3.b Road transportation – liquid fuels – CO_2 (E.9, 2016) (E.9, 2015) (41, 2014) (42, 2013) (52, 2012) Accuracy	Obtain country-specific CO_2 EFs for gasoline and diesel oil sold in France for the estimation of the CO_2 emissions.	Addressing. France is in the process of collecting these data (see ID# E.4 above).
E.11	1.A.3.b Road transportation – liquid fuels – CO_2, CH_4 and N_2O (E.28, 2016) (E.28, 2015) Transparency	Transparently explain in the NIR the differences (especially the biggest ones, such as liquefied petroleum gas) and their trend, between the consumption determined using the COPERT model and the data for fuel sold provided by statistics.	Resolved. The information was provided in the NIR (section 3.2.7.2, pp.185 and 186, figure 42 and table 40).
E.12	1.A.3.c Railways – liquid fuels – N_2O (E.29, 2016) (E.29, 2015) Transparency	Clearly explain the source of the N_2O EF for transport diesel used in railways and avoid providing non-relevant references.	Resolved. The Party explained in the NIR that the N_2O EF for heavy-duty vehicles has been used.
E.13	1.A.3.e.ii Other (other transportation) – all fuels – CO_2, CH_4 and N_2O (E.30, 2016) (E.30, 2015)	Report AD and CO_2, CH_4 and N_2O emissions from ground transport activities in airports and harbours in the category other (1.A.3.e) and explain in the NIR how these AD and emissions are estimated. If reporting AD and emissions under 1.A.3.e is not possible, explain in	Not resolved. No relevant information was provided in the NIR. During the review France explained that the combustion emissions (CO_2, CH_4 and N_2O) from ground transport activities at airports and harbours were reported together in the category other (1.A.2.g) under manufacturing and

ID[3]	Issue and or problem classification[4]	Recommendation made in previous review report	ERT assessment and rationale
	Comparability	the NIR why these emissions from ground transport activities in airports and harbours are reported in the category other (1.A.2.g) in the manufacturing and construction subsector.	construction because the AD and emissions for ground activities at airports and harbours cannot be separated.
E.14	1.B.2.a Oil (E.13, 2016) (E.13, 2015) (44, 2014) Transparency	Improve the transparency of the reported method in the NIR by adding more information on the data (AD and EFs) used.	Resolved. Information was provided in the NIR (section 3.3.2.2.1, p.208).
E.15	1.B.2.a Oil – liquid fuels – CO_2, CH_4 and N_2O (E.31, 2016) (E.31, 2015) Completeness	Estimate and report CO_2, CH_4 and N_2O emissions for the category oil exploration or, if the Party considers them insignificant, report AD and emissions as "NE" and include a justification of the likely level of emissions, as required by the UNFCCC Annex I inventory reporting guidelines.	Not resolved. "NE" was reported; however, justification that emissions from this source are below the threshold was not provided. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions.
E.16	1.B.2.a Oil – liquid and gaseous fuels – CO_2 and CH_4 (E.32, 2016) (E.32, 2015) Transparency	Explain the AD and CO_2 and CH_4 EFs used in the estimations of emissions from transport of crude oil through pipelines and tankers, including the conversion parameters used for the units reported in the CRF tables 1.B.2 and the OMINEA EFs database (see https://www.citepa.org/fr/activites/inventaires-des-emissions/ominea).	Resolved. Information was provided in the NIR (section 3.3.2.2.1, p.209).
E.17	1.B.2.a Oil – liquid fuels – CO_2 and CH_4 (E.33, 2016) (E.33, 2015) Transparency	Explain in detail the methodology used in the estimation of CO_2 and CH_4 emissions from the unloading and storage of crude oil.	Resolved. Information was provided in the NIR (section 3.3.2.2.1, p.208).
E.18	1.B.2.b Natural gas – gaseous fuels – CO_2 and CH_4 (E.34, 2016) (E.34, 2015) Transparency	Correct the AD for natural gas processing.	Resolved. The AD were corrected and the QC procedures described in the NIR (section 3.3.2.4, p.216).
E.19	1.B.2.b Natural gas – gaseous fuels – CO_2 and CH_4 (E.35, 2016) (E.35, 2015) Transparency	Explain in the NIR how CO_2 and CH_4 emissions from the transmission and storage of natural gas are estimated.	Resolved. Information was provided in the NIR (section 3.3.2.2.2, p.210).
E.20	1.B.2.b Natural gas – gaseous fuels – CO_2 and CH_4 (E.36, 2016) (E.36, 2015) Completeness	Explain in a synthetic description in the NIR how CO_2 and CH_4 emissions from distribution of natural gas, including information on the parameters and assumptions used, are estimated and include in the estimates the CH_4 emissions from the microleaks detected	Resolved. Information was provided in the NIR (section 3.3.2.2.2, p.210). CH_4 emissions from the microleaks are included in the estimates.

ID[a]	Issue and/or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
		by systematic monitoring of network incidents.	
E.21	1.B.2.c Venting and flaring (E.16, 2016) (E.16, 2015) (48, 2014) Transparency	For flaring (oil), correct the AD and emissions and include information on the methodology used in the NIR.	Resolved. The AD and emissions were corrected. Information was provided in the NIR (section 3.3.2.2.3, p.214).
IPPU			
I.1	2. General (IPPU) (I.16, 2016) (I.16, 2015) Transparency	Review the references to weblinks to the OMINEA database in the IPPU chapter of the NIR and, for each of them, decide if replacing the links with the appropriate information would make the NIR more transparent.	Addressing. France improved the description in some parts of the NIR (i.e. for cement production (2A.1)). However, most of the IPPU chapter remains the same and the ERT noted the need for the Party to replace the links with appropriate information in the NIR, where necessary, in order to improve transparency.
I.2	2. General (IPPU) (I.17, 2016) (I.17, 2015) Transparency	If different data sources and methodologies/tiers are used for different periods (e.g. production of lime, ammonia, nitric acid, and iron and steel), France provide explanations for such inter-annual changes, where applicable, including information on how the consistency of the time series is ensured when different data sources or methodologies are used to estimate emissions for different periods of time.	Addressing. France provided more explanation for some categories (e.g. 2.A.4 ceramic production, iron and steel), but did not provide information on how the consistency of the time series is ensured for other categories (e.g. the information on production of lime in section 4.2.3 is the same as in the previous NIR).
I.3	2. General (IPPU) – (I.18, 2016) (I.18, 2015) Transparency	Improve the description and justification for all recalculations in the IPPU sector.	Addressing. France included in the NIR for each category for which recalculations were performed a table with the old emission estimate, new emission estimate and the difference (both quantitative and in per cent) between them. Also the Party provided to the ERT detailed tables for each subcategory for which recalculations were performed. The ERT noted that the Party reported in the NIR (section 4.2.5, pp.239 and 240) that recalculations were performed for the subcategories ceramics (2.A.4.a), other uses of soda ash (2.A.4.b) and other (2.A.4.d). However, the ERT noted that an explanation of the recalculations in relation to the newly added CO_2 emissions was not provided in the NIR.
I.4	2.A.1 Cement production – CO_2 (I.19, 2016) (I.19, 2015) Transparency	Provide clear information on disaggregated EFs and AD by type of cement, and on the methodologies and data used over the time series, including details on estimations that use a tier 3 methodology.	Resolved. France provided in the NIR (pp. 225–229) details on estimation methodologies and clear information on disaggregated AD by type of cement. EFs by type of cement from the OMINEA database were also provided as supplementary information with the NIR.
I.5	2.A.4 Other process uses of carbonates –	Conduct surveys to determine small producers and users of lime and include their emissions under the category 2.A.4	Resolved. During the review the Party informed the ERT that the data identified in the analysis of the industrial installations'

ID[a]	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
	CO_2 (I.20, 2016) (I.20, 2015) Completeness	or, if the Party considers these emissions to be insignificant, provide justification in its NIR in accordance with paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines.	annual reports conducted in 2016 were reflected in the emission estimates for the categories mentioned below and reported in the relevant CRF tables. The Party identified various new emission sources and included them in the inventory in different categories (carbonates used in grey foundries under iron and steel production (2.C.7), use of carbonates in the electric furnace steel plant under other iron and steel production (2.C.1.f) and carbonates used in zinc production (2.C.6).
I.6	2.C.3 Aluminium production – PFCs (I.9, 2016) (I.9, 2015) (56, 2014) (55, 2013) (67, 2012) Transparency	Report clearly on the methodological tiers applied or EFs used to estimate PFC emissions.	Resolved. The Party improved the methodology description in the NIR (p.265) and presented EFs from the OMINEA database for the entire time series and submitted the database spreadsheets together with the NIR.
Agriculture			
A.1	3. General (agriculture) (A.19, 2016) (A.19, 2015) Consistency	Provide in the NIR a transparent explanation of the method used to ensure time-series consistency for the livestock population statistics when two different census methods are used.	Resolved. A detailed description of how consistency is ensured was provided in the NIR (section 5.1, p.313), namely that the data on 2000 that are included in both data sets for 1990–2000 and 2000 and onward were used to verify the time-series consistency of the data used for the emission estimates for the entire time series. Whenever the difference between the two series in 2000 was greater than 10 per cent, an adjustment factor was applied.
A.2	3.A Enteric fermentation – cattle – dairy cattle – CH_4 (A.8, 2016) (A.8, 2015) (75, 2014) Transparency	Include information on the typical animal mass (average) for dairy cattle in the NIR and in CRF table 4.A.	Addressing. The values were presented in CRF tables 3.As2 and 3.B(a)s1 for all livestock except poultry and rabbits, but the information was not yet included in the NIR.
A.3	3.A Enteric fermentation – cattle – CH_4 (A.20, 2016) (A.20, 2015) Transparency	Provide in the NIR disaggregated values on a livestock subcategory level for animal body weight and any other important parameters used (e.g. net energy intake, organic matter intake, feed digestibility) and explain the approach used to calculate weighted average values.	Addressing. The typical mass of the animals was reported in the CRF tables but not in the NIR. However, all other parameters were included in the NIR (section 5.2.2, table 65).
A.4	3.B Manure management – Cattle – CH_4 (A.21, 2016) (A.21, 2015) Transparency	Explain in more detail, in the NIR, the approach used to estimate VS excretion by cattle and provide clear evidence that the VS excretion related to urinary energy is included in this estimate	Resolved. The inclusion of urinary energy was clearly indicated in NIR figure 70, which compares the method used for estimating emissions (MONDFERENT method) with the IPCC methodology (sections 5.2.2 and 5.3.2, pp.337–340).
A.5	3.B Manure management –	Report the MCFs for both cold and warm climate in the NIR with the relevant	Resolved. The MCF values were referred to in the NIR (section 5.3.2) and are from the

ID[a]	Issue and/or problem classification[b]	Recommendation made in previous review report	ERT assessment and rationale
	CH_4 and N_2O (A.12, 2016) (A.12, 2015) (79, 2014) (75, 2013) Transparency	explanations.	2006 IPCC Guidelines (volume 4, chapter 10, table 10.17).
A.6	3.B Manure management – N_2O (A.13, 2016) (A.13, 2015) (70, 2014) (76, 2013) Transparency	Improve the transparency of the reporting on the methodology used to estimate N_2O emissions (e.g. by reporting accurately the IPCC equation used for the estimation of N_2O emissions and explaining any transformation made to it).	Resolved. The NIR included a detailed analysis and description of the N cycle in manure management (section 5.3.2, pp.342–354 – emissions de N_2O), including detailed explanatory flowcharts, equations and results compared with the 2006 IPCC Guidelines.
A.7	3.B Manure management – CH_4 (A.23, 2016) (A.23, 2015) Transparency	Correct notation keys to report MCFs for liquid manure management for dairy cattle in CRF table 3.B(a)s2.	Resolved. The notation keys were changed from "NE" to "NO" in CRF table 3.B(a)s2 for 2005, 2010 and 2013.
A.8	3.B Manure management – CH_4 (A.23, 2016) (A.23, 2015) Transparency	Provide in the NIR a more detailed description of the methodology used to estimate average MCFs for manure management in liquid systems (e.g. by providing temperature time series and/or a regional temperature distribution map).	Addressing. The notation keys were corrected; however, a more detailed description on temperature time series and a regional temperature distribution map is still missing from the NIR.
A.9	3.B Manure management – CH_4 (A.24, 2016) (A.24, 2015) Comparability	Estimate the amount of CH_4 that is still emitted during anaerobic digestion of animal manure and report it under the respective MMS in the CRF tables and report only the amount of manure actually still treated as liquid manure under "liquid systems".	Not resolved. CH_4 emissions from anaerobic digesters were reported as "IE" and not separately reported under the respective MMS system.
A.10	3.B Manure management – CH_4 (A.24, 2016) (A.24, 2015) Comparability	Report the corresponding calculation parameters (MCFs, animal waste management system distribution) under MMS digesters in CRF table 3B(a)s2.	Not resolved. Distribution of N excretion to anaerobic digesters was reported as "IE" and MCFs as "NA" and "IE". During the review the Party indicated that no improvement has been implemented to report those parameters in the 2017 submission.
A.11	3.B.3 Swine – CH_4 (A.22, 2016) (A.22, 2015) Transparency	Provide in the NIR a transparent explanation of the methodology used to calculate the weighted average VS excretion rate of the total swine population (e.g. by providing VS excretion rates and livestock population statistics on a disaggregated subcategory level).	Addressing. The average VS excretion for the swine population was provided in the NIR (section 5.3.2, p.339); however, the VS excretion rates were not calculated as per the MONDFERENT II method. The Party indicated in the NIR that the implementation of the method MONDFERENT II is still ongoing and values will be improved once it is concluded.
A.12	3.B.3 Swine – N_2O (A.26, 2016) (A.26, 2015) Transparency	Explain in detail in the NIR how the N excretion rates for swine are estimated (e.g. by providing N excretion rates on a livestock subcategory level together with the respective population statistics).	Addressing. Explanations were provided in the NIR (section 5.1) and references were given for the swine subcategories but the description of the method is incomplete.
A.13	3.B.4 Other livestock – CH_4	Report all parameters related to poultry manure management under MMS other in	Resolved. The values in CRF table 3.B(a)s2 were in the appropriate column and the VS

ID#	Issue and/or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
	(A.25, 2016) (A.25, 2015) Transparency	CRF table 3B(a)s2 and ensure consistency between the reporting of CH_4 emissions from manure management for poultry in the NIR and the CRF tables.	excretion rate was provided for each poultry subcategory in NIR table 72. The information in the CRF tables and the NIR was consistent.
A.14	3.B.4 Other livestock – N_2O (A.27, 2016) (A.27, 2015) Transparency	Report all direct N_2O emissions related to poultry manure management under MMS other in CRF table 3.B(b).	Not resolved. The modification required in CRF table 3.B(b) was not implemented.
A.15	3.B.4 Other livestock – N_2O (A.27, 2016) (A.27, 2015) Transparency	Explain in the NIR which N_2O EFs were used for which poultry subcategory.	Resolved. The explanations and values of EFs used were provided in the NIR (section 5.3.2, tables 75–79).
A.16	3.B.5 Indirect N_2O emissions – N_2O 3.D Direct and indirect N_2O emissions from agricultural soils – N_2O (A.28, 2016) (A.28, 2015) Transparency	Provide in the NIR a transparent description of the N flow model and the corresponding methodology to estimate indirect N_2O emissions from manure management and direct and indirect N_2O emissions from animal manure applied to agricultural soils.	Resolved. The description was included in the NIR (section 5.3.2).
A.17	3.D Direct and indirect N_2O emissions from agricultural soils – N_2O (A.15, 2016) (A.15, 2015) (81, 2014) Transparency	Improve the QC activities and correct the discrepancies in the N input to soils between the NIR and the CRF tables (differences for the N input to soils from synthetic fertilizers and animal manure; correct error for N deposited in the NIR).	Not resolved. There were still discrepancies within the CRF tables (see ID#s A.28 and A.29 in table 6).
A.18	3.D.a.5 Mineralization/immobilization associated with loss/gain of soil organic matter – N_2O (A.29, 2016) (A.29, 2015) Transparency	Explain in the agriculture chapter of the NIR why mineralization/immobilization associated with loss/gain of soil organic matter is not occurring and make a reference to this chapter in the documentation box of CRF table 3.D.	Resolved. France changed the notation key in CRF table 3.D. from "NO" to "IE". N_2O emissions were reported under the LULUCF sector in the category land converted to cropland in CRF table 4(III).
A.19	3.D.a.6 Cultivation of organic soils (i.e. histosols) – N_2O (A.30, 2016) (A.30, 2015) Accuracy	Provide in the NIR a transparent explanation of the methodology used to estimate the area of organic soils in the agriculture sector and ensure the consistency of the areas of organic soils reported under the agriculture sector and the LULUCF sector.	Addressing. The Party explained the methodology used to estimate the area of organic soils under the agriculture sector (p.364). However, there was still inconsistency between the areas of organic soils reported under the agriculture sector (182.32 kha for the whole time series) and the LULUCF sector ("NO" was reported for the area of organic soils under cropland remaining cropland and 16.26 kha for land converted to cropland in 2015).

ID[a]	*Issue and/or problem classification[b]*	*Recommendation made in previous review report*	*ERT assessment and rationale*
A.20	3.D.a.6 Cultivation of organic soils (i.e. histosols) – N_2O (A.31, 2016) (A.31, 2015) Accuracy	Revise the EF for the calculation of N_2O emissions from the cultivation of histosols and provide revised emission estimates.	Resolved. The Party revised the estimates using the default EF provided by the IPCC.
A.21	3.G Liming – CO_2 (A.32, 2016) (A.32, 2015) Transparency	Report CO_2 emissions from the use of limestone and dolomite in CRF table 3.G-1 separately and describe in the NIR the methodological approach used to split between limestone and dolomite.	Resolved. The emissions were reported separately and the methodological approach used to split between limestone and dolomite is explained in the NIR (p.373).
LULUCF			
L.1	4. General (LULUCF) (L.3, 2016) (L.3, 2015) (86, 2014) Transparency	Revise the structure of the NIR to avoid including unnecessary information, while not providing the relevant information (e.g. reasons for not applying directly the IPCC methods to estimate carbon stock changes and non-CO_2 emissions; input data for equations and sources of country-specific data).	Addressing. The structure of the NIR follows the outline provided in the annex to decision 24/CP.19 and the Party is addressing issue ID # L.4 below, which was specifically referenced in the previous review report. Nevertheless, detailed background information was not provided in the NIR or in the online OMINEA methodological report (see also ID# L.5 below).
L.2	4. General (LULUCF) (L.5, 2016) (L.5, 2015) (88, 101, 2014) (86, 2013) Completeness	Include all territories so as to cover the entire geographical area in the annual submission and harmonize the different sources of data to ensure consistency, completeness and accuracy of reporting.	Not resolved. Methodological description of approaches to land assessment of overseas territories and area estimates were provided in the NIR only for territories reported under the Kyoto Protocol (section 6.3). Territories which are not included in reporting under the Kyoto Protocol are not reported (p.392).
L.3	4. General (LULUCF) (L.6, 2016) (L.6, 2015) (89, 2014) (87, 2013) Transparency	Improve the transparency of the reported information on the uncertainty analysis and update the values once data and methodological improvements are implemented for the estimates.	Not resolved. No improvement was made to the information on the uncertainty analysis provided in the NIR. The assumptions and data sources used for the analysis were not transparently provided in the NIR.
L.4	4. General (LULUCF) – CO_2, CH_4 and N_2O (L.22, 2016) (L.22, 2015) Transparency	Report in the NIR complete information on data sources, assumptions and methodologies used. In particular, ensure that the following information is reported: (a) The land use and land-use change matrix (from 1990 to the latest reported year) using the relevant categories from TERUTI; (b) The time series 1971–1989 of the land use and land-use change matrix (equivalent to CRF table 4.1); (c) The equations applied for deriving from the TERUTI data the annual averaged estimates of areas of each land use and land-use change category reported in the CRF tables; (d) Information to explain the	Addressing. Complete and transparent information on sources of AD, assumptions and methodologies applied and the time series used for emission estimation were not provided in the NIR for the items listed in the recommendation, except for items (c), (d), (m), (n), (o), (p) and (r).

ID#	Issue and/or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
		differences for the area of forest land and of associated land-use conversions (to and from forest land) between data collected by TERUTI and data collected by the NFI;	
		(e) Information on how the monitoring system is able to identify land-use changes occurring in the unmanaged forest land from those occurring in the managed forest land;	
		(f) Information on how the monitoring system is able to identify disturbances occurring in the unmanaged forest land from those occurring in the managed forest land and whether the time series of data used for calculating the background level of natural disturbances, and its margin, includes GHG emissions from natural disturbances that occurred in unmanaged forest land;	
		(g) The time series from 1990 to the latest reported year of the area subject to each of the KP-LULUCF activities;	
		(h) The time series from 1990 to the latest reported year of the biomass average gross annual increment (t C/ha) in forest land remaining forest land and in land converted to forest land together with the area across which the value has been calculated, disaggregated at the level of regions and forest types applied for calculating the national total biomass gross annual increment;	
		(i) The time series from 1990 to the latest reported year of the mortality (t C/ha) in forest land remaining forest land and in land converted to forest land, disaggregated at the level of regions and forest types applied for calculating the national total biomass gross annual increment;	
		(j) The time series from 1990 to the latest reported year of average biomass carbon stock (t C/ha) disaggregated at the level of regions and forest types applied for calculating the national total biomass gross annual increment;	
		(k) For each natural disturbance type, the time series from 1990 to the latest reported year of areas of forest land subject to natural disturbances disaggregated at the level of regions and forest types applied for calculating the national total biomass gross annual increment;	

ID#	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
		(l) The time series from 1990 to the latest reported year of the total harvested wood subdivided by land of origin (i.e. metropolitan France and overseas territories), and land use of origin (i.e. forest land, possibly subdivided between FM and AR lands, cropland and grassland); (m) A table with a compilation of root–shoot ratios applied for estimating biomass gains and each biomass loss type (i.e. natural mortality, harvesting and disturbances), disaggregated at the level of the various forest types used for calculating the national total biomass gross annual increment; (n) The equation applied for calculating the total annual net biomass increment from the biomass increments calculated at plot level; (o) For each biomass carbon stock loss and gain, information on whether it includes below-ground biomass; (p) Information on AD to clarify the timing of the collection of data used to elaborate the AD (e.g. the land representation), the methodology applied for data collection, the method (including any assumptions and equations) applied for the elaboration of AD from rough data; (q) Information on EFs to clarify the timing of collection, the methodology applied for data collection, the method (including any assumption and equation) applied for the elaboration of EFs from rough data; (r) Information on the evidence on which each assumption is based, including quantitative information for each carbon pool assumed to be at equilibrium or for which the gross carbon stock change is assumed to be at equilibrium; (s) For each country-specific method, information, consistent with the 2006 IPCC Guidelines, on the verification of the method's estimates.	
L.5	4. General (LULUCF) (L.23, 2016) (L.23, 2015) Transparency	Remove from the NIR all references to equations that are not used in the estimation of emissions and removals in the LULUCF sector, including NIR equations 20, 21 and 22.	Not resolved. Unnecessary information was still provided in the NIR, including equations 25, 26 and 27 (equivalent to equations 20, 21 and 22, respectively, in the previous NIR), which were not used in the inventory submission (see also ID# L.1 above).

ID[a]	*Issue and or problem classification[b]*	*Recommendation made in previous review report*	*ERT assessment and rationale*
L.6	4. General (LULUCF) (L.24, 2016) (L.24, 2015) Transparency	Report in the NIR information on the uncertainty value and associated probability density function for all parameters and data used to prepare the GHG estimates. This could be achieved by, for example, including in the NIR, for each land use and land-use change category, a table that includes, for all parameters and data used for preparing the GHG estimate, the average value, the unit, the assigned confidence interval, together with information on how the confidence interval has been calculated, and information on the type of probability density function applied to the parameter/data uncertainty.	Not resolved. The NIR did not include detailed information on the assumptions and data sources used in the assessment of uncertainty.
L.7	4. General (LULUCF) – CO_2 and N_2O (L.25, 2016) (L.25, 2015) Accuracy	Ensure that the country-specific SOC values in mineral soils applied are calculated by stratifying available data per soil type, climate zone, land use and land management system.	Resolved. Country-specific values of reference carbon stocks and carbon stock change factors for a stratification on soil type, climate and land use are provided in the NIR (section 6.3, tables 107 and 108, pp.400–401) for all land categories.
L.8	4. General (LULUCF) – CO_2 and N_2O (L.25, 2016) (L.25, 2015) Transparency	Report complete information on background data and methods used for calculating the country-specific SOC values.	Resolved. Explicit information was provided in the NIR (section 6.3, p.397) for all land categories.
L.9	4. General (LULUCF) – CO_2 and N_2O (L.25, 2016) (L.25, 2015) Transparency	Verify consistently with the 2006 IPCC Guidelines the estimates prepared with the country-specific SOC values.	Not resolved. The NIR did not mention any verification of such estimates.
L.10	4. General (LULUCF) – CO_2 and N_2O (L.25, 2016) (L.25, 2015) Accuracy	Apply the IPCC default SOC values and SOC change factors for those territories (e.g. overseas territories), for which country-specific factors have not been calculated.	Not resolved. SOC values and carbon stock change factors for non-forest land in overseas territories were not established and any carbon stock changes for non-forest land and forest land conversions to other land uses were not estimated. During the review France explained that the area of non-forest land in overseas territories is extremely small (around 1 per cent of French agricultural land) and neither a survey nor information on trends in agricultural practices in those area is available and there are no planned improvements. The ERT is not currently able to assess the impact of this missing information on the total estimated emissions. In addition, scientific studies show that there are organic soils on non-forest land in French Guiana; thus, potential emissions from organic soils should also be considered within this issue. As long as the Party is not quantitatively demonstrating that the potential emissions from organic soils in the

ID[a]	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
			overseas territories are considered insignificant in accordance with paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines, the ERT considers that the Party's emissions for these categories have potentially been underestimated.
L.11	Land representation (L.26, 2016) (L.26, 2015) Accuracy	Identify in the metropolitan territory and overseas departments the areas of organic soils and the land use to which those areas are subject. To achieve this, the ERT suggests that France may consider using the French soil map or data contained in international soil databases combined with the CORINE land cover map (see https://www.eea.europa.eu/publications/COR0-landcover) or other land-use/land-cover databases.	Addressing. For the metropolitan territory, France mentioned the particularity of the country having small and scattered areas of organic soils across the territory and the ongoing effort to improve the spatially explicit link between soil type and land use. There was no mention in the NIR of the monitoring of organic soils in the overseas territories.
L.12	4.A Forest land – CO_2 (L.9, 2016) (L.9, 2015) (91, 2014) Transparency	Provide more transparent information regarding the integration between TERUTI and the NFI data, and also explain the reasons for the changes in the nomenclature of TERUTI and the per cent coverage of the sampled data for TERUTI and NFI purposes.	Not resolved. The NIR did not provide explicit information on the integration of TERUTI and NFI data, such as how a consistent land assessment is ensured for forest land and its conversions and which changes were implemented in both systems to ensure consistency with regard to land representation.
L.13	4.A Forest land – CO_2 (L.11, 2016) (L.11, 2015) (95, 2014) (90, 2013) Consistency	Assess and report on the potential impact of using NFI data on carbon stocks and carbon stock changes, calculated over the NFI area, together with the TERUTI areas data set.	Addressing. The NIR did not report information on the assessment of the impact of using different data sets for area estimation. During the review France indicated that the GHG inventory team is currently performing an analysis and identifying an appropriate approach to address the inconsistency issue in GHG estimations when combining carbon stock change data from NFI and area data from TERUTI. France also indicated that land-use representation and area estimates should not be affected since TERUTI and NFI implement the same forest definition, while TERUTI is used for all land categories.
L.14	4.A Forest land – CO_2, CH_4 and N_2O (L.27, 2016) (L.27, 2015) Completeness	Harmonize the application of the unmanaged forest definition across the entire national territory and, in doing so, ensure consistency between the reporting of managed forest land and of forest management and complete coverage of forest lands in the metropolitan territory, regardless of their accessibility.	Not resolved. The NIR was not transparent on the actual area of unmanaged forest land at the national level and for each region considered. The previous ERT recommended transparency on the monitoring of unmanaged forest in terms of conversions and natural disturbances. The ability of TERUTI to capture unmanaged land is important as France adopted a non-spatially explicit land-use matrix, which may overlook such events affecting unmanaged forest.
L.15	4.A Forest land – CO_2 (L.28, 2016) (L.28, 2015)	Report for the year 2000 only the entire amount of biomass carbon stock losses, and associated carbon stock gains in the DOM pool, caused by the storm of 2000.	Resolved. The NIR provided an explanation based on the tier 1 method from the 2006 IPCC Guidelines stating that post-storm losses from the living biomass pool and input to the DOM pool were reported for 2000

ID[a]	*Issue and or problem classification[a]*	*Recommendation made in previous review report*	*ERT assessment and rationale*
	Consistency		only.
L.16	4.A.1 Forest land remaining forest land – CO_2 (L.12, 2016) (L.12, 2015) (96, 2014) Transparency	Present the correct equations (UTCF20, UTCF22, UTCF29, UTCF31) and the correct definitions in the NIR.	Resolved. Information on equations 11, 21, 31 and 33 (equivalent to 20, 22, 29 and 31, respectively, in the 2014 NIR) was correctly presented.
L.17	4.A.1 Forest land remaining forest land – CO_2 (L.13, 2016) (L.13, 2015) (98, 2014) (88, 2013) Transparency	Correct the notation key used for emissions from mineral soils to "NE" and provide a relevant explanation.	Resolved. The notation key was changed to "NE" and the NIR provided an explanation based on the tier 1 method from the 2006 IPCC Guidelines.
L.18	4.B.1 Cropland remaining cropland – CO_2 (L.17, 2016) (L.17, 2015) (105, 2014) (98, 2013) Completeness	Provide estimates of the net emissions and removals for living biomass of perennial crops by applying at least a tier 1 method from the IPCC good practice guidance for LULUCF.	Addressing. France reported estimates for the metropolitan area in the CRF tables and explicit country-specific information on carbon stocks in perennial crops was provided. Additionally, during the review France responded to a question from the ERT on implied assumptions (e.g. maturity circle) and data references. However, the ERT noted that net emissions and removals for the overseas territories were not included in the reported emission estimates.
L.19	4.B.2 Land converted to cropland – CO_2 (L.18, 2016) (L.18, 2015) (102, 2014) (98, 2013) Completeness	Apply at least a tier 1 method from the IPCC good practice guidance for LULUCF to estimate the net CO_2 emissions and removals from land converted to perennial crops.	Addressing. For the metropolitan territory, estimates were provided based on country-specific data on carbon stocks for land conversion to perennial crops. Additionally, France provided to the ERT information on assumptions (e.g. maturity cycle) and data references. The ERT noted that emissions and removals for the overseas territories were not estimated or included in the reported emissions for this category.
L.20	Cropland converted to other land uses – CO_2 (L.19, 2016) (L.19, 2015) (103, 2014) Completeness	Provide estimates of biomass losses from conversion of perennial crops to other land uses (including cropland converted to wetlands, settlements and other land).	Addressing. For the metropolitan territory, estimates were included in the CRF tables and the NIR based on explicit country-specific information on carbon stocks in perennial crops. The ERT noted that emissions for the overseas territories were not estimated or included in the reported emissions for this category.
L.21	4.B Cropland – CO_2 and N_2O (L.29, 2016) (L.29, 2015) Completeness	Applying at least the tier 1 IPCC methodology, report estimates of biomass and soil carbon stock changes, and associated CO_2 and N_2O emissions, in: (a) Cropland remaining cropland, reporting emissions and removals associated with changes in cropland subcategories; (b) Land converted to cropland, reporting also emissions and removals	Addressing. For the metropolitan territory, emissions estimates were provided based on explicit data on carbon stocks in living biomass of perennial crops according to cropland subdivisions (see NIR table 101). Additionally, France responded to a question from the ERT on implied assumptions (e.g. maturity circle) and the existence of 16 subcategory divisions in the land-use matrix (although explicit tables with time series of AD are still not included in the NIR). The

ID#	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
		from conversions of land uses other than forest to cropland subcategories.	NIR provided explicit values for reference carbon stocks and stock change factors for mineral soils. Estimates were not provided for biomass or for soils for the overseas territories (see also ID# L.10 above).
L.22	4.B Cropland 4.C Grassland and 4.E. Settlements – CO_2 (L.31, 2016) (L.31, 2015) Transparency	Report in the NIR complete information on the calculation/selection of each biomass density value.	Not resolved. Background information on the selection of the country-specific values on carbon stocks in perennial crops for the metropolitan territory was not transparently included in the NIR, although a reference (ADEME, 2009) was provided during the review.
L.23	4.B Cropland 4.C Grassland and 4.E. Settlements – CO_2 (L.31, 2016) (L.31, 2015) Accuracy	Report a biomass density value for treed cropland and revise the biomass density value reported for perennial shrubby crops.	Resolved. Explicit information on biomass density values for each land category division were provided in table 101 in the NIR (p.394). The biomass density value reported for perennial shrubby crops was revised.
L.24	4.B Cropland 4.C Grassland and 4.E. Settlements – CO_2 (L.31, 2016) (L.31, 2015) Transparency	Clarify that the values reported for treed grassland and treed settlements are applied only to urban forest parks and to grassland subcategories composed of treed lands that do not reach the minimum area threshold of the forest definition.	Resolved. The NIR reported (sections 6.2.3 and 6.2.4) that treed grassland and treed settlements are defined as tree-covered lands that fall under the forest parameters. During the review France stated that land data were collected for 16 land subdivisions of land defined based on the size of the carbon pools, including treed grasslands and treed settlements.
L.25	4.C Grassland – CO_2 and N_2O (L.30, 2016) (L.30, 2015) Completeness	Applying at least the tier 1 IPCC method, report estimates of biomass and soil carbon stock changes, and associated CO_2 and N_2O emissions, in: (a) Grassland remaining grassland, reporting emissions and removals associated with changes in grassland subcategories; (b) Land converted to grassland, reporting also emissions and removals from conversions of land uses other than forest to grassland subcategories.	Addressing. For the metropolitan territory, estimates were provided based on explicit carbon stock values in living biomass, reference carbon stocks and change factors for soils according to four types of land subcategory divisions. However, the ERT noted that, for overseas territories, estimates of emissions from biomass and from soils were not provided (see also ID# L.10 above).
L.26	4.D. Wetlands – CO_2 and N_2O (L.32, 2016) (L.32, 2015) Accuracy	Either report information to demonstrate that the methodology used to estimate carbon stock changes in land converted from and to wetlands produces more accurate and/or precise estimates than the IPCC methodology (2006 IPCC Guidelines, vol. 4, equation 2.26) or apply the IPCC methodology for estimating GHG emissions and removals from drained (wetlands converted to other land uses) and rewetted (other land uses converted to wetlands) organic soils.	Not resolved. The Party used a country-specific method for estimating emissions and removals from organic soils for conversions to and from wetlands, but no information demonstrating that the estimated results are more accurate or precise than using the IPCC method was provided in the NIR.
L.27	4.F.2 Land converted to other	Classify under the category other land, only land without significant carbon	Not resolved. The ERT noted that the Party's methodology for land representation has not

ID[a]	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
	land – CO_2 and N_2O (L.33, 2016) (L.33, 2015) Accuracy	stock.	been changed.
L.28	4.F.2 Land converted to other land – CO_2 and N_2O (L.33, 2016) (L.33, 2015) Completeness	Estimate SOC losses and associated CO_2 and N_2O emissions originated from conversions of cropland, grassland, wetlands and settlements to other land either applying the IPCC default assumption (i.e. all SOC lost in the conversion), or applying a country-specific SOC factor for other land.	Not resolved. The Party reported SOC under DOM under forest land converted to other land only. SOC is reported as "NE" for all other pools for all other land converted to other land (except for "NO" for organic soils under forest land, cropland and grassland converted to other land and mineral soils under wetlands converted to other lands). N_2O emissions were reported as "NE" for this land subcategory.
L.29	4.G.3 Other (harvested wood products) – CO_2 (L.34, 2016) (L.34, 2015) Transparency	Complete CRF table 4.Gs2 and report in the NIR the background data (i.e. the time series of HWP domestically produced from domestic wood) for each HWP category as well as the equations of the country-specific method and the factors applied in the method for converting the HWP weight or volume in tonnes of carbon.	Not resolved. CRF table 4.Gs2 was not completed and the NIR did not report the background data, factors and equations applied, although during the review France provided the information and a reference.
L.30	4 (V) Biomass burning – CO_2, CH_4 and N_2O (L.21, 2016) (L.21, 2015) (107, 2014) Transparency	Include transparent information on all the input data necessary to apply the IPCC methodology to estimate CO_2 and non-CO_2 emissions from biomass burning, including for PTOM.	Addressing. Explicit values for burned areas were provided in the NIR, but the EFs used in the calculation were not transparently provided. Moreover, in equation 24 (NIR p.419) only loss from living biomass was estimated, and the losses from other pools in fires are not included (i.e. litter, dead wood).
L.31	4 (V) Biomass burning – CO_2, CH_4 and N_2O (L.35, 2016) (L.35, 2015) Transparency	Provide information on the progress of the collaboration between the Institut National de l'Information Géographique et Forestière and CITEPA to refine the calculation of the types of burned forests using data from the PROMETHEE database.	Not resolved. The NIR stated that this is not a priority for improvement. Nevertheless, explicit time series of burned areas for the metropolitan territory (including for Mediterranean regions from PROMETHEE) and the overseas territories are available in NIR table 116.
Waste			
W.1	5. General (waste) (W.2, 2016) (W.2, 2015) (111, 2014) (102, 2013) Transparency	Clearly specify when data and figures refer to the geographical coverage under the Convention or under the Kyoto Protocol, and increase the transparency of the reporting of estimated activities for the overseas territories, including the parameters and methodologies used.	Addressing. The Party included some information in the NIR; for example, in all relevant graphs and tables it is indicated to which geographical coverage the graph/table refers. However, the ERT noted that geographical coverage was not clear for industrial wastewater treatment.
W.2	5.A Solid waste disposal on land – CH_4 (W.10, 2016) (W.10, 2015) (117, 2014) (105, 2013) Transparency	Provide more information on the waste composition allocation to the degradation categories used for the estimation for all years of the time series by adding a table to the NIR that explains how the ITOM categories are matched to the degradation categories used for the estimation and provide another table that shows the share	Not resolved. The tables were not included in the NIR.

ID[a]	Issue and or problem classification[b]	Recommendation made in previous review report	ERT assessment and rationale
		of these degradation categories in relation to the total waste landfilled for all years of the time series.	
W.3	5.A Solid waste disposal on land – CH_4 (W.12, 2016) (W.12, 2015) (119, 2014) Transparency	Allocate the fraction of waste rejected from composting plants to the easily degradable waste category or justify that this waste category is correctly allocated to the moderately degradable category.	Addressing. France explained that this fraction refers to waste after composting. Rapid degradable waste is removed upon composting and what is left are the more woody remains of garden and park waste. The ERT agrees that this waste is moderately degradable. The justification, however, was not included in the NIR.
W.4	5.A Solid waste disposal on land – CH_4 (W.13, 2016) (W.13, 2015) (120, 2014) Comparability	Gather additional data on the composition of the bulky waste fraction or allocate the category to the rapidly degradable fraction, if the low DOC assumption has not been justified.	Resolved. Data were obtained to identify the composition of the waste. The waste was split between the IPCC waste categories.
W.5	5.A Solid waste disposal on land – CH_4 (W.19, 2016) (W.19, 2015) Transparency	Increase the transparency of the NIR by including the amount of waste sent to landfill, the CH_4 EFs and the default parameters used from the 2006 IPCC Guidelines.	Resolved. The NIR included information on the treatment of household waste and similar waste. It specified the model parameters used for MCF, fraction of CH_4 in generated landfill gas (F), DOC_f and OX. For DOC and CH_4 generation rate (k), France mentioned that IPCC default values were assumed.
W.6	5.A Solid waste disposal on land – CH_4 (W.20, 2016) (W.20, 2015) Accuracy	Include in the NIR the information about the survey realized to define the CH_4 recovery values used for the solid waste disposal CH_4 emission estimations.	Not resolved. During the review France was not able to supply references to the ERT because the information is partially confidential. France did refer to two websites that contain public information, but they were not referred to in the NIR. The information on the websites, however, was not useful for the review since the amounts of CH_4 recovered used for the emission estimates are not clearly indicated. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions.
W.7	5.A Solid waste disposal on land – CH_4 (W.21, 2016) (W.21, 2015) Adherence to the UNFCCC Annex I inventory reporting guidelines	Report the correct value used for DOC_f in the CRF tables.	Not resolved. It appears that France accidentally reported the values for DOC instead of DOC_f in CRF table 5.A.
W.8	5.B. Biological treatment of solid waste – CH_4 and N_2O (W.22, 2016) (W.22, 2015)	Include in the NIR clear information on the AD used and about the source used as reference for the CH_4 and N_2O EFs.	Addressing. France included in the NIR references to a 2005 and a 2012 ADEME report, suggesting that the EFs were updated on the basis of new information. However, during the review it appeared that the 2012 report was not used. From 2013 onwards, the Party has data from an interface in which all

ID[a]	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
	Accuracy		landfill owners have to report CH_4 recovery data. However, during the review, documentation was not provided to the ERT. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions.
W.9	5.B.2 Anaerobic digestion at biogas facilities – CH_4 (W.23, 2016) (W.23, 2015) Accuracy	Report the estimated amount of CH_4 for energy recovery in CRF table 5.B for the appropriate years since 1990.	Resolved. France changed the notation key to "NE" and stated that it does not have information on the amount of CH_4 utilized and flared for this category.
W.10	5.D.1 Domestic wastewater – CH_4 (W.25, 2016) (W.25, 2015) Accuracy	Follow the decision tree in the 2006 IPCC Guidelines regarding the values for B_o and MCF when estimating CH_4 emissions from domestic wastewater.	Addressing. France explained to the ERT that developing a country-specific value for B_o (as indicated in the decision tree) does not make much sense because B_o is more related to the chemical composition of biomass, which is universally more or less the same. The ERT agrees with this. France used a default MCF. Septic tanks are the key pathway for CH_4 emissions from domestic wastewater. The ERT considers that the Party may seek literature that can be used to develop a country-specific MCF for septic tanks.
W.11	5.D.2 Industrial wastewater – CH_4 (W.24, 2016) (W.24, 2015) Transparency	Include in the NIR clear information on AD and CH_4 EFs and detailed information about the industries and amounts of wastewater discharged by those industries considered to calculate CH_4 emissions from industrial wastewater.	Not resolved. No additional information was included in the NIR.
KP-LULUCF			
KL.1	General (KP-LULUCF) – CO_2 (KL.1, 2016) (KL.1, 2015) (133, 2014) Completeness	Ensure that the coverage of all territories (including overseas territories) is as comprehensive as possible to further increase the completeness of the reporting	Resolved. The NIR (section 6.3) provided explicit information on the metropolitan territory (pp.381–387) and overseas territories (pp.387–392) on the monitoring of land subject to activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol.
KL.2	General (KP-LULUCF) (KL.3, 2016) (KL.3, 2015) Completeness	Improve the national system for the overseas territories by introducing additional institutional arrangements to ensure that at minimum information be collected on a continuous basis to be included in France's future annual submission on: (a) Forest area and forest area changes; (b) Forest areas subject to natural disturbances; (c) Forest biomass carbon stock gains;	Addressing. No information was provided in the NIR to describe changes in institutional arrangements designed to implement this recommendation. During the review France informed the ERT on the ongoing process of expanding the scope of the metropolitan NFI realized by the National Geographic Institute to forests in overseas territories with the purpose of developing operational monitoring of the territories.

ID[a]	Issue and or problem classification[b]	Recommendation made in previous review report	ERT assessment and rationale
		(d) Forest biomass carbon stock losses associated with harvesting and carbon stock losses associated with natural disturbances.	
KL.3	General (KP-LULUCF) (KL.4, 2016) (KL.4, 2015) Accuracy	Use the data from the NFI plots collected in the areas subject to disturbance or land-use conversion for estimating biomass and DOM carbon stocks in disturbed/converted areas to enhance the accuracy of its estimates of GHG emissions associated with disturbance of forest lands and their conversions to other land uses.	Addressing. During the review, France provided the information that it estimated CO_2 emissions based on data from the NFI on the average carbon stocks of land subject to natural disturbances and land conversions, but not averaged stocks of forest at national scale. Nevertheless, no methodological information was provided in the NIR, therefore the ERT could not assess the enhancement of the accuracy.
KL.4	Article 3.3 activities (KL.5, 2016) (KL.5, 2015) Transparency	Report in the NIR the following quantitative information: (a) For both AR and deforestation, the time series (from 1990 to the last reported year) of area subject to the activity (i.e. extend back to the time period 1990–2007 the data series reported in NIR table 69) and of net annual SOC changes; (b) The time series (from 1990 to the last reported year) of annual harvesting, of biomass net annual increment, of GHG emissions from natural disturbances in lands subject to AR; (c) The time series (from 1990 to the last reported year) of biomass carbon stock loss from areas deforested every year.	Not resolved. The NIR did not provide any of the recommended time series, although the estimates are provided in the CRF tables.
KL.5	Afforestation and reforestation – forest management (KL.6, 2016) (KL.6, 2015) Accuracy	Allocate the appropriate portion of harvested wood to AR lands and remove it from FM, and revise its carbon stock change estimates in AR and FM accordingly.	Not resolved. "NO" was reported for harvested wood for AR in the CRF tables. France mentioned that it is looking for a solution to this issue.
KL.6	Afforestation and reforestation – general (KL.7, 2016) (KL.7, 2015) Accuracy	Revise AR estimates by estimating and reporting the initial loss of biomass (ΔC conversion) associated with the conversion of land to forest land in grassland and cropland converted to forest land which did contain woody vegetation under their previous land use.	Resolved. Carbon stock in living biomass of woody vegetation in previous land-use subcategories disaggregated by region was included in the estimates for forest land (NIR chapter 6.3, table 100) and for subdivisions of non-forest land categories (NIR table 101).
KL.7	Afforestation and reforestation – forest management – general (KL.8, 2016) (KL.8, 2015) Accuracy	Address the inconsistency between the information reported in the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol and the annual submission by including pests and droughts in the estimates of the background level and margin for FM and AR.	Not resolved. In response to a question from the ERT, France confirmed that it had already made a technical correction to the FMRL. Nevertheless, there was no mention of the required information on consistency between the annual FM estimates and the corrected FMRL.
KL.8	Afforestation and reforestation –	Make a technical correction of the FMRL to make it consistent with the recalculated	Resolved. The Party explained that a new version of background level with its margin,

ID[a]	*Issue and or problem classification*[a]	*Recommendation made in previous review report*	*ERT assessment and rationale*
	forest management – general (KL.8, 2016) (KL.8, 2015) Accuracy	background level.	which includes all natural disturbances, was reported in 2017 following an in-country review. A technical correction to the FMRL was calculated and reported in the NIR (section 11.5.2.3, p.509) and in the CRF accounting table.
KL.9	Afforestation and reforestation – forest management – general (KL.8, 2016) (KL.8, 2015) Accuracy	When calculating the background level and margin for both FM and AR, revise the apportioning of area burned between FM and AR lands for each year of the time series by using the time series of actual area of AR land (kha).	Resolved. Estimates were provided in CRF table 4(KP-II)4 for both AR and FM. During the review France confirmed that it had revised the apportioning of area burned between FM and AR land.
KL.10	Afforestation and reforestation – forest management – CO_2 (KL.9, 2016) (KL.9, 2015) Completeness	Either report evidence that such an assumption is accurate (that in overseas territories the biomass carbon stock in forest land, including both lands under FM and AR, is at equilibrium) or estimate, at least at tier 1, biomass net carbon stock changes in FM and AR lands in overseas territories and report those estimates.	Not resolved. In the NIR (section 6.4.2), complemented by a response to a question from the ERT during the review, France provided information to explain that the living biomass pool in FM and AR land is a net sink in the overseas territories. However, the ERT noted that this was not sufficient to verify that forest management interventions, like selective logging, do not occur in overseas territories, or that AR does not represent post-cut regeneration of forest. This is because the Party surveys only on land-use changes from and to forest in these territories (see section 11.4.2 of the NIR).
KL.11	Afforestation and reforestation – forest management – general (KL.10, 2016) (KL.10, 2015) Accuracy	Apply the stock difference method for estimating biomass and DOM net carbon stock changes to verify the estimate reported by applying the gain and loss method. The ERT notes that the stock difference method can be applied at the level of each single plot, and to estimates aggregated at the national level or directly applied at the national level; although if implemented at the national level the stock difference method would estimate the aggregated impact of AR, deforestation and FM.	Not resolved. No such verification was reported in the NIR.
KL.12	Forest management – general (KL.11, 2016) (KL.11, 2015) Accuracy	Calculate a technical correction of the FMRL to ensure consistency with the background level of emissions from natural disturbances in order to include in the FMRL the net GHG emissions calculated as the background level of natural disturbances. To do so, the technical correction of the FMRL has to add to the FMRL the background level value and subtract from the FMRL the emissions (already included) which originate from the type of natural disturbances that have been included in the calculation of the background level.	Not resolved. During the review, the Party explained that, although it is aware that the FMRL and its technical correction are not fully consistent, there are no plans to carry out additional work on projections to the technical corrections of its FMRL reported in 2017 in order to improve it until the end of the commitment period.
KL.13	Forest management –	Report in the NIR quantitative information on the drivers that have	Not resolved. No quantitative information was provided in the NIR.

ID[a]	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
	general (KL.12, 2016) (KL.12, 2015) Transparency	determined the deviation of the actual estimates of GHG emissions and removals reported under FM from the projected GHG emissions and removals included in the FMRL correction value, including: (a) The time series (from 1990 to the latest reported year) of annual harvesting, of biomass gross annual increment, of natural mortality, of FM area and of GHG emissions from natural disturbances used for preparing estimates for FM during the commitment period; (b) The historical time series (1990–2012) of annual harvesting, of biomass gross annual increment, of natural mortality, of FM area, of GHG emissions from natural disturbances used for projecting the FMRL correction value; (c) The amount of annual harvesting, of biomass gross annual increment, of natural mortality, of FM area, of GHG emissions from natural disturbances included in the FMRL correction value.	
KL.14	Forest management – general (KL.13, 2016) (KL.13, 2015) Accuracy	Use the same age class structure as derived from the NFI for the year 2010 for calculating the FMRL correction value and ensure consistency in the factors applied in the FMRL and in the FM estimates to calculate the total biomass (above and below ground) of forest from the growing stock volume.	Not resolved. In response to the ERT, France stated that it had already made a technical correction to the FMRL, but the NIR did not provide the required information for the ERT to assess whether the same age class structure was used and the consistency between the annual submission on FM and the FMRL correction ensured.
KL.15	Forest management – general (KL.14, 2016) (KL.14, 2015) Accuracy	Implement a technical correction to the FMRL in order to ensure consistency between the areas of forest applied for calculating the FMRL correction value and the areas reported under FM during the commitment period, including the forest area under FM in the overseas departments.	Not resolved. In response to the ERT, France stated that it had already made a technical correction to the FMRL. No new FMRL correction was reported in the NIR, and the Party indicated that it is aware that the FMRL correction is not fully consistent with FM estimates but there are no plans to carry out additional work on projections to further improve this issue until the end of the commitment period.
KL.16	Forest management – general (KL.14, 2016) (KL.14, 2015) Transparency	Calculate, for each year of the time series of historical data, the areas under FM to be used for calculating the FMRL correction value (i.e. the total managed forest area reported in the year in CRF table 4.A minus the cumulated AR area from 1990 until that year).	Resolved. Information was reported for the period from 2013 onward in NIR table 136 (which includes the overseas forests relevant for the Kyoto Protocol).
KL.17	Forest management – CO_2 (KL.15, 2016) (KL.15, 2015) Accuracy	Ensure consistency in the application of the methodology and in the data set used for estimating the HWP contribution in the FMRL and in the actual estimates for FM, by using a single methodology fully consistent with the guidance contained in the Kyoto Protocol Supplement.	Not resolved. The NIR did not explicitly mention the consistent implementation of the methodology between the annual submission on FM and the FMRL correction. The ERT noted that the study (see ID# KL.22 below) that supports the calculation of the actual estimates of HWP was published in 2014.

ID[a]	Issue and/or problem classification[b]	Recommendation made in previous review report	ERT assessment and rationale
KL.18	Forest management – general (KL.16, 2016) (KL.16, 2015) Completeness	Harmonize the application of the unmanaged forest land definition by accounting under FM all the forest lands in the metropolitan territory that are not reported under AR or deforestation, regardless of their accessibility.	Not resolved. The Party did not account for all the forest land under FM in the metropolitan territory. France did not provide explicit information on the ability of the land monitoring system to capture land conversions and natural disturbances in unmanaged forest land in the metropolitan area.
KL.19	Forest management – general (KL.17, 2016) (KL.17, 2015) Transparency	Report 153,455.612 kt CO_2 eq as the forest management cap in the CRF table accounting.	Not resolved. France submitted in its CRF accounting table an updated value of 145,767.0 kt CO_2 eq. However, the ERT noted that this value is different from the value indicated by the previous ERT (153,455.612 kt CO_2) as a fixed value calculated according to paragraph 22 of decision 6/CMP.9, and no explanation was provided in the NIR.
KL.20	Forest management – CO_2 (KL.18, 2016) (KL.18, 2015) Accuracy	Remove the imported fuelwood from the fuelwood consumption statistics before estimating the amount of biomass carbon stock lost associated with domestically produced fuelwood.	Resolved. Imported fuelwood has been subtracted from fuelwood consumption (see section 6.10.2). The NIR indicates that all imports are excluded from calculations of HWP contribution using the production approach.
KL.21	Harvested wood products – CO_2 (KL.19, 2016) (KL.19, 2015) Transparency	Report in CRF table 4(KP-I)C and in the NIR, as follows: (a) Background data (i.e. the time series of HWP domestically produced from domestic wood) for each HWP category; (b) Information on how HWP domestically produced from domestic wood have been singled out from the total HWP domestically produced; (c) Information on how the HWP contribution of exported HWP, domestically produced with domestic wood, have been estimated; (d) Information on how HWP domestically produced with domestic wood harvested in non-forest land, if any, have been estimated and whether they have been excluded from the HWP contribution; (e) Information that demonstrates the consistency between the harvesting rate reported for estimating biomass net carbon stock change in land under FM and AR and the HWP domestic production.	Not resolved. CRF table 4(KP-I)C contained updated values for HWP contribution, but there was no improved information reported in the NIR as required.
KL.22	Harvested wood products – CO_2 (KL.20, 2016) (KL.20, 2015) Accuracy	Report verification information for the estimates of the HWP contribution. The ERT notes, in this regard, that verification information may be an alternative estimate prepared applying the default methodology contained in the Kyoto Protocol Supplement.	Not resolved. Verification of estimates by comparison with the IPCC first-order decay method was not reported. However, a reference (Amant and Gassiat, 2014) for the methodological background for the tier 3 method applied was provided during the review.

ID#	Issue and or problem classification[a]	Recommendation made in previous review report	ERT assessment and rationale
KL.23	Biomass burning – CO_2, CH_4 and N_2O (KL.2, 2016) (KL.2, 2015) (137, 2014) Transparency	For wildfires, provide the reference for each of the CO_2, CH_4 and N_2O EFs used and the underlying assumptions, if applicable.	Addressing. The NIR (section 6.3, p.418) reported the use of default IPCC EFs. During the review, the Party indicated that additional information, such as combustion efficiency and mass of available fuel for each type of zone, will be reported in the next submission.

[a] References in parentheses are to the paragraph(s) and the year(s) of the previous review report(s) where the issue and/or problem was raised. Issues are identified in accordance with paragraphs 80–83 of the UNFCCC review guidelines and classified as per paragraph 81 of the same guidelines. Problems are identified and classified as problems of transparency, accuracy, consistency, completeness or comparability in accordance with paragraph 69 of the Article 8 review guidelines, in conjunction with decision 4/CMP.11.

IV. Issues identified in three successive reviews and not addressed by the Party

8. In accordance with paragraph 83 of the UNFCCC review guidelines, the ERT noted that the issues included in table 4 have been identified in three successive reviews, including the review of the 2017 annual submission of France, and have not been addressed by the Party.

Table 4
Issues identified in three successive reviews and not addressed by France

ID#	Previous recommendation for the issue identified	Number of successive reviews issue not addressed[b]
General		
G.1	Clearly explain the methodologies and the sources of data used for each part of the French metropolitan and overseas territories	3 (2014–2017)
G.2	Remove misleading parameters and equations (not actually used in the inventory) for the LULUCF and waste sectors from the NIR and include more accurate explanations of the country-specific methods, as well as more detailed information on AD	3 (2014–2017)
G.3	Correct the information in CRF table NIR-3 and improve the description of the key category analysis for KP-LULUCF activities	4 (2013–2017)
Energy		
E.5	Include in CRF table 1.A(d) information on where the associated CO_2 emissions from non-energy use of fuels are reported	4 (2013–2017)
E.10	Obtain country-specific CO_2 EFs for gasoline and diesel oil sold in France for the estimation of the CO_2 emissions	5 (2012–2017)
IPPU		
	No such issues for the IPPU sector were identified	
Agriculture		
A.2	Include information on the typical animal mass (average) for dairy cattle in the NIR and in CRF table 4.A	3 (2014–2017)
A.17	Improve the QC activities and correct the discrepancies in the N input to soils between the NIR and the CRF tables (differences for the N input to soils from synthetic fertilizers and animal manure; correct	3 (2014–2017)

ID[a]	Previous recommendation for the issue identified	Number of successive reviews issue not addressed[b]
	error for N deposited in the NIR)	
LULUCF		
L.1	Revise the structure of the NIR to avoid including unnecessary information while not providing the relevant information (e.g. reasons for not applying directly the IPCC methods to estimate carbon stock changes and non-CO_2 emissions; input data for equations and sources of country-specific data)	3 (2014–2017)
L.2	Include all territories so as to cover the entire geographical area in the annual submission and harmonize the different sources of data to ensure consistency, completeness and accuracy of reporting	4 (2013–2017)
L.3	Improve the transparency of the reported information on the uncertainty analysis and update the values once data and methodological improvements are implemented for the estimates	4 (2013–2017)
L.12	Provide more transparent information regarding the integration between TERUTI and the NFI data, and explain the reasons for the changes in the nomenclature of TERUTI and the per cent coverage of the sampled data for TERUTI and NFI purposes	3 (2014–2017)
L.13	Assess and report on the potential impact of using NFI data on carbon stocks and carbon stock changes, calculated over the NFI area, together with the TERUTI areas data set	4 (2013–2017)
L.18	Provide estimates of the net emissions and removals for living biomass of perennial crops by applying at least a tier 1 method from the IPCC good practice guidance for LULUCF	4 (2013–2017)
L.19	Apply at least a tier 1 method from the IPCC good practice guidance for LULUCF to estimate the net CO_2 emissions and removals from land converted to perennial crops	4 (2013–2017)
L.20	Provide estimates of biomass losses from conversion of perennial crops to other land uses (including cropland converted to wetlands, settlements and other land)	3 (2014–2017)
L.30	Include transparent information on all the input data necessary to apply the IPCC methodology to estimate CO_2 and non-CO_2 emissions from biomass burning, including for PTOM	3 (2014–2017)
Waste		
W.1	Clearly specify when data and figures refer to the geographical coverage under the Convention or under the Kyoto Protocol, and increase the transparency of the reporting of estimated activities for the overseas territories, including the parameters and methodologies used	4 (2013–2017)
W.2	Provide more information on the waste composition allocation to the degradation categories used for the estimation for all years of the time series by adding a table to the NIR that explains how the ITOM categories are matched to the degradation categories used for the estimation and provide another table that shows the share of these degradation categories in relation to the total waste landfilled for all years of the time series	4 (2013–2017)
W.3	Allocate the fraction of waste rejected from composting plants to the easily degradable waste category or justify that this waste category is correctly allocated to the moderately degradable category	3 (2014–2017)

ID[a]	*Previous recommendation for the issue identified*	*Number of successive reviews issue not addressed[a]*
KP-LULUCF		
KL.23	For wildfires, provide the reference for each of the CO_2, CH_4 and N_2O EFs used and the underlying assumptions, if applicable	3 (2014–2017)

[a] The review of the 2016 annual submission was held in conjunction with the review of the 2015 annual submission. Since the reviews of the 2015 and 2016 annual submissions were not "successive" reviews, but were held in conjunction, for the purpose of counting successive years in table 4, 2015/2016 are considered as one year.

V. Additional findings made during the 2017 individual inventory review

9. Tables 5 and 6 contain findings made by the ERT during the individual review of the 2017 annual submission of France that are additional to those identified in table 3. In accordance with paragraph 76(b) of the UNFCCC review guidelines, the ERT has prioritized in table 5 recalculations that changed the total emissions/removals for a category by more than 2 per cent and/or national total emissions by more than 0.5 per cent for any of the recalculated years.

Table 5
Additional findings made during the 2017 individual review of the annual submission of France related to recalculations

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue and or a problem[20] If yes, classify by type*
Energy			
E.22		Recalculations were made to the energy sector that changed the emission/removal estimate for a category by more than 2 per cent and/or national total emissions by more than 0.5 per cent; however, the ERT did not identify any issues or problems with these recalculations.	Not an issue
IPPU			
I.7	2.A.4 Other process uses of carbonates – CO_2	The ERT noted that France indicated in the NIR (p.224) that it had newly added CO_2 emissions from grey foundries, non-ferrous metal and iron and steel plants owing to their use of carbonates or carbonated products. The Party reported in the NIR (section 4.2.5, pp.239 and 240) that recalculations were performed for the subcategories ceramics (2.A.4.a), other uses of soda ash (2.A.4.b) and other (2.A.4.d). However, the ERT noted that an explanation of the recalculations in relation to the newly added CO_2 emissions was not provided in the NIR. For further discussion and the related recommendation see ID# I.3 in table 3.	Not an issue/problem
I.8	2.F.4 Aerosols – HFC-227ea	France reported recalculations for HFC emissions from aerosols (2.F.4) from 1994 onwards. It provided in the OMINEA database (www.citepa.org/fr/activites/inventaires-des-emissions/omincа) AD and EF values for the period considered. The ERT noted the very high value of the EF for HFC-227ea for 2005 (182.6 per cent, compared with the rest of the time series, which ranged from 64.7 to 104.5 per cent). During the review France explained that the emissions of HFCs from pharmaceutical aerosols were estimated assuming that 50 per cent of the initial charge is emitted in the first year and 50 per cent in the second year. The share of the type of HFC used was estimated based on the production data. Thus, the share of HFC-227ea can vary and decreased between 2004 (1.9 per cent) and 2015 (0.6 per cent). Therefore, the estimated HFC-227ea emissions in 2005 correspond to the sum of the quantity of HFC-227ea contained in aerosol products sold in 2004 and 2005, but the HFC-227ea IEF for 2005 was estimated by dividing the estimate of HFC-227ea emissions for 2005 by HFC-227ea consumption in 2005. Since HFC-227ea consumption in 2005 was lower than in 2004, the IEF for HFC-227ea for 2005 became higher. The ERT agrees with the reason presented by the Party and considers the information clear. The ERT recommends that France include information on the assumption and method used for the emission estimation in the NIR.	Yes. Transparency
I.9	2.G.1 Electrical equipment – SF_6	In the NIR (p.309) France reported that it recalculated the SF_6 emission estimates for this category by including emissions from other electric operators, except for Electricité de France, Electricité Réseau Distribution France and Réseau de Transport d'Electricité. For those newly added electric operators, lifetime SF_6 emissions were estimated to make up 10 per cent of the total AD. France informed the ERT during the review that the value used (10 per cent of total AD) for the emission estimation was provided by GIMELEC (a French association representing 200 companies that provide electrical and automation solutions). France also indicated that investigations are being	Yes. Accuracy

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and/or a problem[b]? If yes, classify by type
		carried out to take into account the new electric operators and also to distinguish the producers, transporters and distributors of electricity in recent years. France plans to use part of this information for its next inventory submission. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions. The ERT recommends that France obtain AD reflecting the information on the new electric operators and also distinguishing the producers, transporters and distributors of electricity, using the investigation that is currently under development, and recalculate SF_6 emissions from electrical equipment for the entire time series.	
Agriculture			
A.22	3.C Rice cultivation – CH_4	Recalculations were made for the whole time series for category 3.C rice cultivation, which reduced the CH_4 emission estimates for this category by 40.63 per cent (56.93 kt CO_2 eq). The recalculations were based on two changes: a change in the AD (rice harvested area) for the whole time series and a change in the scaling factor (SF_o). However, the ERT noted that in the NIR the Party did not provide transparent information on how SF_o was determined. During the review the Party explained that the CFOA used in the SF_o estimation was revised on the basis of cultivation practices in the region of Camargue, which is the main producer of rice in the country with 90 per cent of the cultivated area. The Party used this information as a proxy for rice cultivation as a whole in France, including French Guiana, which accounts for the remaining 10 per cent of the cultivated area, even though the cultivation practices in that overseas territory are not known. Additionally, during the review France acknowledged that there was an error in the parameter selection. The new CFOA (1) was selected from the row "Straw incorporated shortly (<30 days) before cultivation" of table 5.14, volume 4, chapter 5, of the 2006 IPCC Guidelines. However, the ERT noted that, in accordance with the cultivation practices of Camargue, the use of the value in the row "Straw incorporated long (>30 days) before cultivation" (0.29) would be more appropriate. The ERT noted that the use of the correct CFOA parameter will result in a decrease in the estimated emissions. Additionally, the ERT noted that in the NIR there was no information regarding the change in the harvested areas although that was one of the reasons for the recalculation. During the review, the Party confirmed that the rice harvested area of French Guiana has been revised for the whole period in the 2017 submission. The ERT recommends that France revise the estimate of CH_4 emissions by applying the correct CFOA taking into account the management practices of the overseas territories.	Yes. Accuracy
A.23	3.G Liming – CO_2	The ERT noted that CO_2 emissions from liming (3.G) have been recalculated for the whole time series owing to the addition of a new source, namely carbonates for the production of paper pulp. During the review the Party explained that newly obtained data on lime products delivered for agriculture from the Association Nationale Professionnelle pour les Engrais et Amendements (French national fertilizer association) enabled the Party to add the category. The ERT commends France for improving the completeness of this category.	Not an issue/problem
LULUCF			

ID[a]	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue and or a problem[a]? If yes, classify by type*
L.32	4. General (LULUCF) – CO_2	The whole LULUCF sector was significantly recalculated compared with in the previous annual submission, namely for the period before 2001 (annual estimates around 10 per cent lower) and after 2011 (annual estimates around 20 per cent lower). The recalculations made for the living biomass pool under forest land remaining forest land, cropland converted to forest land, grassland converted to forest land and wetlands converted to forest land, for the mineral soils pool under cropland remaining cropland and cropland converted to grassland, for the organic soils pool under other land converted to wetlands, and for controlled and wildfire biomass burning resulted in changes that exceeded 2 per cent of the net removals estimate for the LULUCF sector and/or 0.5 per cent of the national total emissions. However, the ERT noted that the NIR did not provide sufficiently transparent information thereon, including the reasons for the recalculations, that is, the methodological improvements, and that the Party did not explain how time-series consistency was ensured for the carbon stock change factors used for the estimation of the above-mentioned sources and sinks. During the review France confirmed the recalculations and explained that the inventory team did not have time to update the NIR thereon. The ERT recommends that France explain any future recalculations in a transparent manner by providing in the NIR detailed reasons for the recalculations, and state the actual improvement from a methodological point of view (e.g. refining of parameters and methodological changes, correction of errors, as appropriate).	Yes. Transparency
Waste			
W.12	5. General (Waste) – CH_4 and N_2O	Recalculations were made to the waste sector that changed the emission/removal estimate for a category by more than 2 per cent and/or national total emissions by more than 0.5 per cent; however, the ERT did not identify any issues or problems with these recalculations.	Not an issue
KP-LULUCF			
KL.24	General (KP-LULUCF)	Recalculations made to KP-LULUCF activities changed the emission/removal estimate for a category by more than 2 per cent and/or national total emissions by more than 0.5 per cent; however, the ERT did not identify any issues or problems with these recalculations.	Not a problem

[a] Recommendations made by the ERT during the review are related to issues as defined in paragraph 81 of the UNFCCC review guidelines, or problems as defined in paragraph 69 of the Article 8 review guidelines. Encouragements are made to the Party to address all findings not related to such issues or problems.

10. Table 6 contains additional findings made by the ERT during the 2017 individual review that are not covered in table 3 or 5, but are within the scope of the desk review as specified in paragraph 76 of the UNFCCC review guidelines or paragraph 65 of the Article 8 review guidelines and are findings that the ERT wishes to convey to the Party.

Table 6
Additional findings made during the 2017 individual review of the annual submission of France

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue and/or a problem? If yes, classify by type*
G.13	Other	The ERT noted that France did not provide information in the NIR on the likely level of emissions for categories considered insignificant, and only mentioned that they account for below 0.05 per cent of the national total GHG emissions and do not exceed 500 kt CO_2 eq. During the review the Party indicated to the ERT that it did not make a complete assessment to check whether the sum of the contributions of all insignificant non-estimated categories remained below 0.1 per cent of the national total GHG emissions. The ERT noted that the UNFCCC Annex I inventory reporting guidelines (para. 37(b)) state that the total national aggregate of estimated emissions for all gases and categories considered insignificant shall remain below 0.1 per cent of the national total GHG emissions, which can only be ensured by France understanding the likely level of the emissions for each insignificant category reported as "NE". The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions. The ERT recommends that France provide in the NIR the likely level of emissions for each category that it reported as "NE" on the basis of the judgment that France considers the emissions for the categories to be insignificant, in order to demonstrate that the total national aggregate of estimated emissions for all gases and categories considered insignificant remains below 0.1 per cent of the national total GHG emissions in accordance with paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines.	Yes. Completeness
G.14	Kyoto Protocol units	The ERT noted that the SIAR contained a recommendation to France regarding the reporting of actions to correct any problem that caused a discrepancy to occur, any changes to the national registry to prevent a discrepancy from reoccurring, or the resolution of any previously identified questions of implementation pertaining to transactions. The SIAR noted that although no discrepancies were found in the R-2 international transaction log report France did not provide information in the NIR regarding paragraph 17 of the annex to decision 15/CMP.1. During the review the Party indicated that it will follow the SIAR recommendation and include the information in the next annual submission. The ERT recommends that the Party report information in accordance with decision 15/CMP.1, annex, paragraph 17, in conjunction with decision 3/CMP.11.	Yes. Transparency
Energy			
E.23	1. General (energy sector)	Previous ERTs identified that transparency could be improved in the NIR by providing EFs and AD in the same units as in the CRF tables. During the review France informed the ERT that it plans to report emissions in t or kt, rather than in Mg or Gg, in future annual submissions; however, the Party considers that it is more appropriate to provide AD in the original units and also to provide the conversion factors. The ERT agrees with this approach. The ERT recommends that France provide this information for the waste incineration and coal mining categories, which is where this issue has been particularly noticeable.	Yes. Transparency
E.24	Fuel combustion – reference	The ERT noted that the estimate of CO_2 emissions from other fossil fuels using the sectoral approach is 11.33 per cent higher than that using the reference approach for 2015. France explained in the NIR (section 3.2.1) that the difference arises because a	Yes. Transparency

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem[c]? If yes, classify by type
	approach – other fossil fuels: CO_2	carbon factor of 25 kg/GJ is used in the reference approach whereas an EF close to 29 kg/GJ is used in the sectoral approach. During the review France further explained that the reason for the difference is that the reference approach uses default EFs from the 2006 IPCC Guidelines, whereas the sectoral approach uses country- or plant-specific EFs. The ERT recommends that the Party provide in the NIR information on the difference between the sectoral and reference approaches, that is that the reference approach uses default EFs from the 2006 IPCC Guidelines whereas the sectoral approach uses country- or plant-specific EFs.	
E.25	1.A.3.c Railways – solid fuels – CO_2, CH_4 and N_2O	The ERT identified that there are some steam trains operating in France; however, emissions from solid fuels under railways were reported as "NO" in CRF table1.A(a)s3. During the review, France explained that coal-powered locomotives are very limited in number and the coal used by them is not included in the line "transport" of the national energy balance but somewhere else, within commercial/institutional activities, since the national energy balance statistics cover all fuel sold. Noting that, subcategory "railways" is further in CRF table 1.A(a)s3, split by fuel types, the ERT considers that the emissions from coal used by coal-powered locomotives must be included under solid fuels under railways. The ERT recommends that the Party report from coal used by coal-powered locomotives separately under solid fuels under railways.	Yes. Comparability
E.26	1.A.4 Other sectors – solid, liquid and gaseous fuels – CO_2, CH_4 and N_2O	The ERT noted that there was little information included in the NIR on how the AD used to estimate emissions arising from military activities were determined and where the emissions were reported. During the review France explained that fuel use in this sector is confidential and therefore not reported separately but included under other sectors (1.A.4). The FRT recommends that France include in the NIR the reason why the AD used to estimated emissions from military activities are not separately provided and where the emissions from military activities are included in the submission or provide estimates for these emissions. As the ERT could not verify the completeness of the emissions data in this review, the ERT believes that this issue should be considered further in future reviews to confirm there is not an underestimation of emissions.	Yes. Accuracy
E.27	1A5b Non-specific mobile – solid, liquid and gaseous fuels – CO_2 and CH_4	France reports emissions from non-specified mobile sources as "NO". However, during the review, France explained that emissions from military activities are included under the category of Other sectors (1.A.4). The ERT recommends to correct the notation key to "IE".	Yes. Transparency
E.28	1.C CO_2 transport and storage – gaseous fuels – CO_2	The NIR (section 3.4) states that no emission estimates were made for this category, despite an experimental plant being in operation since 2010. In CRF table 1.C, emissions from injection and storage were reported as "IE" and AD reported as "NE" for the entire time series. During the review France explained that between 2013 and 2016 the storage continued but without new capture of CO_2 in a phase of environmental monitoring. Thus, France will contact the operator in order to take into account the CO_2 leakage and quantify the CO_2 emissions due to the storage of CO_2. The ERT recommends that the Party estimate and report emissions for this category, including the emissions from the experimental plant, for the whole time series. The ERT believes that this issue should be considered further in future reviews to	Yes. Completeness

ID	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and/or a problem? If yes, classify by type
		confirm that there is not an underestimation of emissions.	
IPPU			
I.10	2.A.2 Lime production – CO_2	In the NIR (p.231) France reported that, since 2014, CO_2 emissions from high calcium and dolomitic lime production have been estimated using data provided by industrial plants. Some of the plant data are estimated using tier 2 and other plant data are estimated using tier 3 methodologies from the 2006 IPCC Guidelines. However, from the information provided by the Party during the review, the ERT noted that a tier 2 method that was used by five industrial units did not apply correction factors to account for CO_2 emissions from LKD. Noting that, where national-level data are available on the types of lime produced, it is good practice to estimate emissions using equation 2.6 in which the correction factor for LKD is included (2006 IPCC Guidelines, volume 2, chapter 2, p.2.20), and also noting that the 2006 IPCC Guidelines indicate that, in the absence of data, the inventory compiler may assume a correction addition of 2 per cent to account for LKD (i.e. multiply estimated emissions by 1.02), the ERT considers that this omission of a correction factor in applying a tier 2 methodology could lead to the underestimation of emissions. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions. The ERT recommends that France either estimate emissions from LKD by applying the correction factor for LKD as indicated in equation 2.6 of the 2006 IPCC Guidelines or provide a detailed explanation of the tier 2 methodology used for estimating emissions from those industrial plants by type of kiln (e.g. plants produce lime in vertical shaft kilns or another type of kiln, such as rotary kiln) to demonstrate that there is no omission of the CO_2 emissions from LKD.	Yes. Accuracy
I.11	2.A.2 Lime production – CO_2	The NIR (p.232) indicated that CO_2 emissions and removals from sugar refining were estimated and reported. During the review France informed the ERT that all CO_2 emissions and removals were reported under the category lime production (2.A.2). In the 2006 IPCC Guidelines (volume 3, chapter 2, p.2.33) it is indicated that it is good practice to report emissions from consumption of carbonates in the source category where the carbonates are consumed and the CO_2 emitted. Also the ERT noted that the 2006 IPCC Guidelines (volume 3, chapter 2, table 2.7) indicate that, to help to assure that the emissions are allocated appropriately and not over- or underestimated, emissions from lime production at sugar mills should be reported in category 2.A.2 lime production, while CO_2 removals should be reported in category 2.H.2 food and beverages industry. The ERT recommends that France report emissions from lime production in sugar mills in category 2.A.2 lime production and to report the CO_2 removals in category 2.H.2 food and beverages industry.	Yes. Comparability
I.12	2.B.1 Ammonia production – CO_2	In the NIR (p.246) France reported that CO_2 emissions from ammonia production were estimated using a tier 2 method. The emissions reported under ammonia production (2.B.1) include only the emissions from feedstock consumption (non-energy use of natural gas). During the review France informed the ERT that combustion emissions from ammonia production were reported under the energy sector to allow a better overall treatment of the national energy balance data in order to avoid double counting or underestimation. The Party also informed the ERT that this allocation of the emissions from the production of ammonia was accepted during the in-country review of the French inventory in 2016. The Party further provided a comparison between the total estimated CO_2 emissions (combustion and process emissions) included in the inventory and the estimated emissions reported under the EU ETS. Based on the information provided, the ERT did not identify any under- or	Yes. Transparency

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
		overestimates of CO_2 emissions. Nevertheless, the ERT noted that estimating emissions on the basis of only feedstock consumption is not in line with the 2006 IPCC Guidelines (as they indicate that in the case of ammonia production no distinction is made between fuel and feedstock emissions, with all emissions accounted for under the IPPU sector, which can lead to an underestimation of the emissions (volume 3, chapter 3, pp.3–11). The 2006 IPCC Guidelines (volume 3, chapter 3, pp.3–16, box 3.2) also indicate that, in order to avoid double counting, the total quantities of oil or gas used (fuel plus feedstock) in ammonia production must be subtracted from the quantity reported under energy use in the energy sector. The ERT recommends that France include information in the NIR on the comparison between the total estimated CO_2 emissions (combustion and process emissions) included in the inventory and the estimated emissions reported under the EU ETS. The ERT encourages the Party to report all CO_2 emissions (combustion and process emissions) from ammonia production under ammonia production (2.B.1).	
I.13	2.B.7 Soda ash production – CO_2	In the NIR (p.249) France indicated that soda ash is produced in two industrial units and both are using the Solvay production process. For the period 2001–2015, France used a tier 3 method to estimate CO_2 emissions (using data reported by industrial units) with EFs estimated as a ratio of CO_2 emissions to soda ash production. For the period 1990–2000, emissions were estimated using a tier 2 method with national production data and the EF for 2001. The ERT noted that applying the EF for one specific year (2001) to estimate emissions for the period 1990–2000 could introduce a bias in the CO_2 emission estimation. During the review France informed the ERT that it will consider using a mean of several years for the EF for the emission estimation for the period 1990–2000 for the next annual submission. The ERT recommends that the Party take into consideration the actual production processes over the period 1990–2000 to derive an updated EF or EFs that best reflect those processes for those years.	Yes. Accuracy
I.14	2.C.1 Iron and steel production – CH_4	In the NIR (p.263) France stated that it estimated CH_4 emissions from BOF and EAF steel production under iron and steel production. However, the ERT noted that in CRF table 2(I).A-Hs2 the Party indicated that CH_4 emissions and recovery from sinter production were estimated and included elsewhere. During the review France provided information on the methodology used to estimate CH_4 emissions from sinter production and indicated that the CH_4 emissions from sinter production were allocated to category 1.A.2.a combustion emissions from iron and steel production. The ERT recommends that France adhere to the 2006 IPCC Guidelines and report CH_4 emissions from sinter production under iron and steel production.	Yes. Comparability
I.15	2.C.1 Iron and steel production – CO_2	France estimated CO_2 emissions from iron and steel production using models based on a carbon balance between the input and output of carbon quantities contained in various raw materials and combustibles used in the production processes. France developed these models and uses them for estimating CO_2 emissions from sinter production, pig iron production, BOF steel production and EAF steel production. France reported during the review that in estimating CO_2 emissions for 2014 and 2015, the carbon mass balance was obtained based on ratios between production and consumption due to the loss of national statistics for after 2013 (from the French professional body on steel production). During the review the ERT noted that carbon contents for various raw materials used as input in the production processes had not been considered in estimating CO_2 emissions from iron and steel production (2.C.1) in the 2017 submission, and therefore the CO_2 emissions were potentially underestimated for	Yes. Transparency

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
		the entire time series. In response to the list of potential problems and further questions raised by the ERT during the review, the Party provided revised CO_2 emission estimates reflecting: carbon contained in steel scraps used in EAF steel production; steel scraps, iron ore and dolomite used in BOF steel production; iron ore and sinter used in pig iron production in blast furnaces; iron ore used in sinter production as input; and carbon content of output materials of each production process. In the revised estimates, the ratio of electrode consumption per EAF steel produced, the ratio of pig iron consumption per EAF steel produced and carbon content for BOF gas were also corrected. France explained that, where AD were not available, specific best available techniques reference documents (BAT-BREF) or ratios provided by the 2006 IPCC Guidelines were used to estimate AD. Regarding carbon contents of materials used in the carbon balance where the values are not provided by a professional body, values from NF EN 19694-2 standard "Stationary source emissions. GHG emissions in energy-intensive industries. Iron and steel industry", Annex C (September 2016)", which includes data from EU industries, were used. The ERT acknowledged the explanation provided by France of the difficulties of obtaining in such a short time a national country-specific ratio for the AD of: (1) steel scraps, electrode consumption and pig iron for EAF steel production; (2) steel scrap, iron ore and dolomite for BOF steel production; (3) iron ore and sinter for pig iron production in blast furnaces; and (4) iron ore for sinter production; as well as national carbon contents of steel scraps, iron ore, sinter and dolomite. The ERT recommends that France update its description in the NIR by explaining how the estimates for EAF steel production, BOF steel production, pig iron and sinter production were calculated, including detailed information on the AD and carbon contents used and their sources.	
I.16	2.C.1 Iron and steel production – CO_2	The ERT noted that carbon contents for various raw materials used as input in the production processes had not been considered in estimating CO_2 emissions from iron and steel production (2.C.1) in the 2017 submission, and therefore the CO_2 emissions were potentially underestimated for the entire time series (see also ID# I.15 above). Therefore, the ERT further recommends that France collect from governmental agencies responsible for manufacturing or energy statistics, business or industry trade associations, or individual iron and steel companies data on the following national process materials for the entire time series: steel scraps, electrode consumption and pig iron for EAF steel production; steel scraps, iron ore and dolomite consumption for BOF steel production; iron ore and sinter consumed for pig iron production in blast furnaces; and iron ore consumed for sinter production, and include the AD in the country-specific model and provide new CO_2 emission estimates in the submission. In accordance with the tier 2 method (2006 IPCC Guidelines, volume 3, chapter 4, p.4.26), the ERT encourages France to estimate national carbon contents for steel scraps, iron ore and sinter considering EU ETS or plant-level data. Considering that iron and steel production is an important key category, the ERT also considers the implementation of tier 3 by collecting the necessary data for estimating the associated CO_2 emissions will improve the estimation of emissions from this category.	Yes. Accuracy
I.17	2.C.1 Iron and steel production – CO_2	France estimated CO_2 emissions from sinter production on the basis of carbonate consumption only and reported them under other (2.A.4.d) under other process use of carbonates. Emissions from coke used were reported under iron and steel under manufacturing industries and construction (1.A.2.a) in the energy sector (NIR, p.258). According to the 2006 IPCC Guidelines (volume 3, chapter 4, pp.4.14 and 4.22) under the IPPU sector CO_2 emissions from carbonates, coke breeze, coke oven gas,	Yes. Comparability

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem[28] If yes, classify by type
		blast furnace gas and other materials containing carbon (i.e. iron ore) should be included under the category sinter production. Further, the ERT noted that the 2006 IPCC Guidelines indicate that it is good practice to report emissions from consumption of carbonates in the source category where the carbonates are consumed and the CO_2 emitted (volume 3, chapter 2, p.2.33). The ERT also noted that in table 2.7 of the 2006 IPCC Guidelines (volume 3, chapter 2, p.2.37) it is indicated that when carbonates are consumed as contained in flux stone, emissions should be reported in category 2.C metal industry under the industry where they are consumed, unless counted under energy (for combustible off-gases sold offsite), which implies that CO_2 emissions from limestone and dolomite used (other than quantities used for lime production) in iron and steel production should be reported in category 2.C.1. However, France informed the ERT during the review that CO_2 emissions were estimated for coal, coke, coke oven gas, blast furnace gas, petroleum coke, natural gas and domestic fuel oil and allocated to the energy sector. Further, the Party explained that it allocated these CO_2 emissions from sinter production to the energy sector based on the structure of the available AD in order to ensure clearer fuel use allocations in the relevant CRF tables of energy and IPPU sectors. The Party explained that this ensures avoiding the possibility of double counting of energy consumptions. The ERT recommends that France include these information in the NIR. The ERT also recommends France investigate ways to report emissions from carbonate use, coke breeze, coke oven gas, blast furnace gas and other materials containing carbon under iron and steel production (2.C.1) in the IPPU sector as required by the 2006 IPCC Guidelines in order to improve the comparability.	
I.18	2.C.1 Iron and steel production – CO_2	France reported CO_2 emissions from carbonates and carbonated materials used in EAF plants (ferroalloys, chrome, carbonated manganese) under the subcategory other *(2.C.1.f) of iron and steel production on the basis of data* from the EAF plant. The ERT noted that the 2006 IPCC Guidelines indicate that CO_2 process emissions from steel production are to be reported under category 2.C.1.a steel production. The ERT recommends that France adhere to the 2006 IPCC Guidelines and report emissions from carbonates and carbonated materials used in EAF plants under category 2.C.1.a steel production.	Yes. Comparability
I.19	2.C.7 Other (metal industry) – CO_2	The NIR (p.267) and the OMINEA database (www.citepa.org/fr/activites/inventaires-des-emissions/ominea) (p.462) indicated that France estimated CO_2 emissions from silicon production, ferrosilicon and other silicon alloys using a tier 3 method for the period 2013–2015 and a tier 2 method for the period 1990–2013 and reported them under the subcategory other (2.C.7) of metal industry. The ERT noted that in the 2006 IPCC Guidelines (volume 3, chapter 4, p.4.32) it is explained that ferroalloys is the term used to describe concentrated alloys of iron and one or more metals such as silicon, manganese, chromium, molybdenum, vanadium or tungsten. Silicon metal production is usually included in the ferroalloys group because the silicon metal production process is quite similar to the ferrosilicon production process. In the 2006 IPCC Guidelines (volume 3, chapter 4, pp.4.32–4.34) methodologies and EFs for different types of ferrosilicon and silicon production (table 4.5) are provided in the section on ferroalloys production. During the review France explained that CO_2 emissions from silicon production, ferrosilicon and other silicon alloys are included under other (2.C.7) because production data are not available for the entire time series. Further, France explained that it decided not to include emissions from those ferroalloys with the emissions from ferroalloys production (2.C.2) in order not to affect the IEF for that category. The ERT recommends that France adhere to the 2006 IPCC Guidelines and report emissions from ferrosilicon and silicon	Yes. Comparability

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
		production under category 2.C.2 ferroalloys production.	
I.20	2.C.7 Other (metal industry) – CH_4	The NIR (p.267) and the OMINEA database (p.462) indicated that France reported CO_2 emissions from silicon production, ferrosilicon and other silicon alloys only. The ERT noted that the 2006 IPCC Guidelines (volume 3, chapter 4, table 4.7) provide default EFs for CH_4 and a methodology for the estimation of CH_4 emissions from ferrosilicon and silicon alloy production (volume 3, chapter 4, p.4.35). During the review France provided an estimation of CH_4 emissions for this category using a tier 1 method. AD for the period 1990–2012 were estimated using the average ratio between the CO_2 emissions and the AD for the years 2013–2015 and the CO_2 emissions were estimated using a tier 3 method. The CH_4 EF is from the 2006 IPCC Guidelines (volume 3, chapter 4, table 4.7). The ERT noted that the resulting estimated CH_4 emissions are insignificant according to paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines. The ERT recommends that France report CH_4 emissions from ferroalloys production or quantitatively justify that the emissions are insignificant in accordance with decision 24/CP.19, annex, paragraph 37(b).	Yes. Accuracy
I.21	2.D.1 Lubricant use – CO_2	France reported in the NIR (p.272) and the OMINEA database (p.466) that the quantities of lubricant used in two-stroke and four-stroke engines (for road transportation) were subtracted from the total lubricant quantities included in the national energy balance. France stated that the quantity of lubricant used in four-stroke engines for road transportation was estimated using a tier 3 approach. The ERT noted that the 2006 IPCC Guidelines (volume 5, chapter 5, p.5.6) indicate that: "The use of lubricants in engines is primarily for their lubricating properties and associated emissions are therefore considered as non-combustion emissions to be reported in the IPPU sector. However, in the case of two-stroke engines, where the lubricant is mixed with another fuel and thus on purpose co-combusted in the engine, the emissions should be estimated and reported as part of the combustion emissions in the energy sector". Therefore, the ERT considers that all co-combustion emissions that are not from two-stroke engines should be considered to result from product use, and therefore the emissions must be reported under lubricant use (2.D.1). During the review the Party clarified that the quantity of lubricant used in four-stroke engines for road transportation was estimated using a tier 3 approach (using the COPERT model with specific lubricant oxidation ratio). The four-stroke engine lubricant consumption for road transport is subtracted from the total four-stroke engine lubricant consumption to identify the other use of lubricant in four-stroke engines, for that portion of lubricant the IPCC 2006 method is applied, and emissions were reported under lubricant use in the IPPU sector. The Party explained that the 2017 OMINEA report on the CITEPA website is not up to date on the category of lubricant use, and informed the ERT of its intention to update it. The ERT recommends that France explain the method used to identify the volume of lubricant used in four-stroke engines in the NIR.	Yes. Transparency
I.22	2.D.1 Lubricant use – CO_2	France reported in the NIR (p.272) and the OMINEA database (p.466) that the quantities of lubricant used in two-stroke and four-stroke engines (for road transportation) were subtracted from the total lubricant quantities included in the national energy balance. However, the ERT considers that all co-combustion emissions that are not from two-stroke engines should be considered to result from product use, and therefore the emissions must be reported under lubricant use (2.D.1) in accordance with the 2006 IPCC Guidelines (volume 5, chapter 5, p.5.6) (see also ID# I.21 above).	Yes. Comparability

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
		The ERT recommends that France report all emissions from lubricant use except co-combustion emissions from two-stroke engines under lubricant use (2.D.1) in the NIR.	
Agriculture			
A.24	3.B Manure management – CH_4 and N_2O	The NIR stated (pp.316–318, figure 67 and table 63) that a change in the MMS profile from dry to liquid slurry systems was captured in three surveys from 1994, 2001 and 2008 for all livestock. Further, the NIR stated that only data for 2001 and 2008 were used because the survey from 1994 did not capture the relevant information. A value for 2001 was used for the period 1990–2001. The Party applied interpolation using data from the surveys conducted in 2001 and 2008 in order to fill in the AD for the years between 2002 and 2007. For the years between 2009 and 2015 the Party extrapolated data obtained for 2008. The NIR indicated that a new survey was conducted in 2015, but the results will only be available at the end of 2017 or the beginning of 2018 and were therefore not reflected in the 2017 annual submission. However, the ERT noted that France did not justify the use of extrapolation for the latest years of the time series. It also noted that the 2006 IPCC Guidelines (volume 1, chapters 5.3.3.4 and 5.3.3.5) state that: "Extrapolation should also not be used over long periods of time without detailed checks at intervals to confirm the continued validity of the trend. In some cases, it may be necessary to develop a customized approach to best estimate the emissions over time. For example, the standard alternatives may not be valid when technical conditions are changing throughout the time series." Therefore, the ERT considers that the application of extrapolated AD for seven years is not in accordance with the 2006 IPCC Guidelines. The ERT noted that the use of liquid slurry technology increased substantially for dairy cattle from 2001 to 2008 but no information was provided for beyond that point. Observing surrounding countries under similar circumstances, the ERT identified that the liquid slurry technology for MMS has a penetration of 73 per cent (Germany) and 85 per cent (Netherlands) for dairy cattle (against 40 per cent in France), with the technology advancing mostly over the range and pasture or solid storage alternatives. For other cattle, liquid slurry reaches 30 per cent of the livestock in Germany and the Netherlands, while for France that figure is 22 per cent. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions. The ERT recommends that the Party use the data obtained through the survey in 2015 to extrapolate the AD on MMS between 2008 and 2015 so as to ensure a consistent time series. If that is not feasible, the ERT recommends that, until such time when France can incorporate the new survey data, the Party conduct a thorough analysis of whether the existing approach undermines the penetration of the liquid slurry technology and either justify the method used to obtain AD for the latest years is in accordance with the 2006 IPCC Guidelines or modify the method to ensure that the extrapolation best reflects current practices (e.g. by taking into account the trends in penetration of various MMS observed in similar countries).	Yes. Accuracy
A.25	3.B.4 Other livestock – N_2O	The ERT noted that the AD for urine and dung deposited by grazing animals (3.D.1.3) reported in CRF table 3.D (928,325,490.94 kg N) do not match the values reported for pasture, range and paddock in CRF table 3.B(b) (928,329,812.11 kg N) for 2015. During the review France explained that the excretion of mules and asses in the overseas territories was double counted for 2011 onwards in CRF table 3.B(b) but properly reported in CRF table 3.D. Therefore this issue does not affect the AD or the emissions for the category urine and dung deposited by grazing animals (3.D.1.3). The ERT recommends that the Party use corrected AD for pasture, range and paddock under manure management in CRF table 3. B(b) and ensure the consistency of the AD used to estimate N_2O emissions from urine and dung deposited by grazing	Yes. Accuracy

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and/or a problem?[a] If yes, classify by type
		animals (3.D.1.3) and from pasture, range and paddock under manure management in CRF table 3.B(b).	
A.26	3.D.a.2.a Animal manure applied to soils – N_2O	The ERT noted that the information regarding animal manure excreted and volatilized at farms provided in CRF table 3.B(b) and the AD reported in CRF table 3.D under category 3.D.a.2.a animal manure applied to soils are not consistent. During the review France explained that the inconsistency was due to the omission of N volatilized as NH_3 and NO_X and N leached at farms from horses, and informally provided new estimates correcting the omission of N. The corrected animal manure applied to soils (3.D.a.2.a) is 616,450 kt N/year, while the originally reported value was 613,864 kt N/year eq, corresponding to a difference in emission estimates of 12 kt CO_2 eq. Additionally the ERT noted that volatilization as N_2 and straw incorporated in the manure were not estimated for the overseas territories. The ERT estimated that the total N_2O emissions omitted were below the threshold for commencement of an adjustment procedure in accordance with paragraph 80(b) of the annex to decision 22/CMP.1 and therefore this issue was not included in the list of potential problems and further questions raised by the ERT. The ERT recommends that France estimate N_2O emissions reflecting N volatilized as NH_3 and NO_X and N leached at farms from horses.	Yes. Accuracy
A.27	3.D.a.2.a Animal manure applied to soils – N_2O	The ERT noted that the information regarding animal manure applied to soils did not consider the effect of volatilization as N_2 and the N in straw incorporated in the manure (bedding) in farms when estimating N_2O emissions under this category for the overseas territories, which is not in accordance with the 2006 IPCC Guidelines (volume 4, chapter 10, equation 10.24 and footnote b to table 10.23). The ERT estimated that the difference in total N_2O emissions resulting from those omissions was below the threshold for commencement of an adjustment procedure in accordance with paragraph 80(b) of the annex to decision 22/CMP.1 and therefore this issue was not included in the list of potential problems and further questions raised by the ERT. The ERT recommends that France estimate N_2O emissions in the overseas territories taking into account the N volatilized as N_2 and the N in bedding in accordance with the 2006 IPCC Guidelines.	Yes. Accuracy
A.28	3.D.a.5 Mineralization/immobilization associated with loss/gain of soil organic matter – N_2O	The ERT noted that emissions from mineralization/immobilization associated with loss/gain of soil organic matter were reported as "IE" in CRF table 3.D. In the NIR France explained that the N_2O emissions for this category were reported under the LULUCF sector (CRF table 4(III)). During the review France claimed that the 2006 IPCC Guidelines and the footnote to CRF table 4(III) are not completely consistent on this point; therefore France decided to follow the CRF table footnote, which indicates that only N_2O emissions from cropland remaining cropland should be included under the agriculture sector. However, the ERT considers that the current reporting in CRF table 3.D as "IE" is not correct because N_2O emissions reported under the LULUCF sector in CRF table 4(III) only include emissions from land converted to cropland (4.B.2). The ERT noted that, according to the 2006 IPCC Guidelines (volume 4, chapter 11, p.11.15), the AD for this category are the variations in the SOC pool for cropland remaining cropland. The ERT also noted that for all the years in the time series (except for 1990, 1992 and 1993), the SOC pool was a net sink for cropland remaining cropland. Therefore, emissions from mineralization/immobilization associated with loss/gain of soil organic matter could be zero. The ERT further noted that the SOC pool for cropland remaining cropland for 1992 and 1993 was reported as a net source, while it was reported as "NE" for 1990. The ERT recommends that France report in table 3.D "NO" for AD and emissions for all years in which the SOC pool was a	Yes. Completeness

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
		net sink (1991 and 1994–2015) and "NE" for 1990, and report emissions for 1992 and 1993.	
A.29	3.D.b.1 Atmospheric deposition – N_2O	The Party reported indirect N_2O emissions from managed soils atmospheric deposition in CRF table 3.D using national estimates for NH_3 and NO_X emissions from mineral fertilizers, manure, sludge, compost and grazing animals based on the European Environment Agency *EMEP/EEA Air Pollutant Emission Inventory Guidebook 2013*. During the review, France provided a spreadsheet of N_2O emission estimates for atmospheric deposition that included detailed AD, EFs and estimation procedure. However the ERT noted that the preliminary estimation by the ERT for the 2015 inventory based on the information provided by France (5,748 t N_2O (1,713 kt CO_2 eq)) does not match the reported value in CRF table 3.D, which is 3,768 t N_2O (1,123 kt CO_2 eq). Likewise, the ERT noted that its preliminary estimates for 2014, 5,638 t N_2O (1,680 kt CO_2 eq), and for 2013, 5,485 t N_2O (1,634 kt CO_2 eq), do not match the reported values in CRF table 3.D: 3,664 t N_2O (1,092 kt CO_2 eq) for 2014 and 3,552 t N_2O (1,058 kt CO_2 eq) for 2013. Similar differences in the estimations were noted for all years of the time series 1990–2015. In response to a follow-up question during the review, the Party agreed that the correct estimate for 2015 (5,748 t N_2O) was 590 kt CO_2 eq higher than the reported value; for 2014 (5,638 t N_2O) it was 588 kt CO_2 eq higher; and for 2013 (5,485 t N_2O) it was 576 kt CO_2 eq higher. The Party agreed that N_2O emissions from atmospheric deposition (3.D.2.1) were not estimated in accordance with the 2006 IPCC Guidelines in the 2015 annual submission, with a potential underestimation of emissions for all years of the time series. The ERT included this issue in the list of potential problems and further questions raised by the ERT. In response to the list of potential problems, France resubmitted corrected estimates for the entire time series. The ERT agrees with the revised estimates.	Not an issue/problem
A.30	3.D.b.2 Nitrogen leaching and run-off – N_2O	The ERT noted that the AD provided in CRF table 3.D for category 3.D.b.2 nitrogen leaching and run-off were not consistent with the AD provided for the other categories in that table for all years of the time series. During the review it was identified that the AD reported in CRF table 3.D for nitrogen leaching and run-off did not include data on the overseas territories. The ERT concludes that the AD reported in CRF table 3.D were not correct, but the emission estimates reported were correct. The ERT recommends that France provide correct AD reflecting also the overseas territories in CRF table 3.D.	Yes. Adherence to the UNFCCC Annex I inventory reporting guidelines
LULUCF			
L.33	Land representation – CO_2 and N_2O	In the CRF tables France reported "NO" for the entire time series for AD for organic soils for forest land remaining forest land, cropland remaining cropland, grassland remaining grassland, settlements remaining settlements and other land remaining other land. The ERT noted that the entire areas of wetlands remaining wetlands is reported as occurring exclusively on organic soils, and all areas of land converted to and from wetlands are reported as occurring on organic soils. The ERT considers therefore that the organic soil area has to be reported both under the land category of origin for land converted to wetlands and for the final land category for land converted from wetlands, taking into account the 20-year transition period applied by France for all land conversions. Further, the ERT noted that there is an inconsistency in the reported area of histosols between the agriculture sector (182,318 kha) in CRF table 3.D.a.6 and the LULUCF sector (area of organic soils under wetlands converted to cropland (16.26 kha) in CRF table 4.B). Those areas are used to estimate direct N_2O emissions from cultivation of histosols under the agriculture sector and CO_2 emissions from loss of soil organic matter by mineralization on managed land under the LULUCF sector. The ERT noted that this is not in accordance with the provision of the 2006 IPCC Guidelines (volume 4, chapters 2 and	Yes. Accuracy

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
		11.2.1) that the exact same area should be used for estimating CO_2 emissions using equation 2.26 (parameter A) and N_2O emissions using equation 11.1 (parameter annual area of managed/drained organic soils). During the review the Party explained that land use and land-use changes are currently estimated on the basis of a statistical survey following approach 2 of the 2006 IPCC Guidelines, which does not allow a spatially explicit cartography, which means that it is not possible to link accurately one type of soil with one land use or land-use change. France also explained that it has accurate information on the total area of organic soils subject to cultivation under agriculture (see also ID# A.28 above). Currently France assumes that wetlands are always associated with organic soils. Thus improvement efforts are under way, as a priority, to further develop the capacity to have a spatially explicit cartography of land use and land-use changes. The ERT considers that the Party's land representation is not accurately reflected in the reported emission estimates because CO_2 emissions from loss of soil organic matter on managed soils are not reported. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions. The ERT recommends that France: (1) define the data source and method for its organic soils area estimation; and (2) identify land representation of croplands accurately in order to report emissions/removals taking into account the 20-years transition period for land conversions applied by France. In doing so, France, depending on available resources, may consider: (1) improving the spreadsheets for allocation of the known total organic soils area across all relevant land-use subcategories; or (2) linking land use and soils by implementing approach 3 for land representation provided in the 2006 IPCC Guidelines through enhanced use of TERUTI-LUCAS (http://agreste.agriculture.gouv.fr/enquetes/territoire-prix-des-terres/teruti-lucas-utilisation-du/) spatial features (e.g. either rely on TERUTI- LUCAS soil information or match its spatial grid with (organic) soils map and derive grid plots where organic soils occur, then improve the land-use conversion matrix with this information). The ERT further recommends that France report consistent AD for the estimation of CO_2 emissions under LULUCF and N_2O emissions under the agriculture sector.	
Waste			
W.13	5. General (waste) – CH_4	In the NIR (p.457), the Party gives a flow chart of the generation and treatment of household waste and similar waste. However, considering the information in other parts of the NIR, including figure 92 (p.458), the flow chart of generation and treatment of household waste and similar waste on p.457 describes the treatment of only 53 Mt out of a total of 345 Mt of waste generated in France. The ERT notes that the 2006 IPCC guidelines (volume 5, chapter 2.1) states that it is good practice to account for all types of solid waste when estimating waste-related emissions in the GHG inventory. Further, the 2006 IPCC Guidelines (volume 5, chapter 3.5) indicate that there is often a significant contribution to emissions from other waste types, in addition to municipal solid waste, such as emissions from construction and demolition waste, sludge from wastewater treatment plants, hazardous waste and residue of mechanical biological treatment. However, the ERT notes that the clear information on the generation and treatment of the remaining approximately 290 Mt of waste is missing in the NIR and this makes it difficult for the ERT to assess whether the inventory is complete. The ERT believes that this issue should be considered further in future reviews to confirm that there is not an underestimation of emissions. The ERT recommends that France include in chapter 7.1 of the NIR an overview of all wastes generated and the extent to which it is recycled, incinerated, landfilled or treated otherwise. This overview should include waste types specified in the	Yes. Transparency

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and/or a problem[20] If yes, classify by type
		2006 IPCC Guidelines, volume 5, chapter 3, paragraph 3.5, and to ensure the inclusion of wastes that are considered inert. The ERT encourages France to also describe the historical development of waste treatment in order to enable a check for consistency over time.	
W.14	5.A Solid waste disposal on land – CH_4	France distinguished categories of SWDS between "being managed and compacted" and "being managed but not compacted". The difference is with or without cover layers. For the managed but not compacted landfill sites, France applied an MCF of 0.5 in estimating CH_4 emissions, while, for the managed and compacted, an MCF of 1 was applied since it is the IPCC default for managed SWDS. However, the ERT noted that, according to the 2006 IPCC Guidelines (volume 5, chapter 3, table 3.1, footnote 1), anaerobic managed SWDS must have controlled placement of waste and will include at least one of the following: (i) cover material (ii) mechanical compacting or (iii) levelling of the waste. Therefore, the ERT notes that SWDS with a cover layer need to be qualified as anaerobic managed SWDS, irrespective of whether they are mechanically compacted or not. Further, the same table specifies that emissions from managed SWDS need to be calculated assuming an MCF of 1.0. Therefore, the ERT considers that the application of an MCF of 0.5 to managed but not compacted landfill sites is not in accordance with the 2006 IPCC Guidelines. In response to the potential problems and further questions raised, the Party revised the CH_4 emission estimates for the whole time series on the basis of the revised classification of the landfill management types and the MCFs and OX trend respective to the different landfill management types. The Party provided the ERT with a detailed description of the revised classification. In the original emission estimates, the Party applied two landfill types, "controlled, not compacted SWDS" and "controlled SWDS". For the revised estimates, the Party split the original category "controlled, not compacted SWDS" into "non-controlled SWDS" and "controlled, not compacted SWDS". For the first category of "non-controlled SWDS", the Party assumed an MCF of 0.6, which is in line with the MCF for uncategorized landfills in table 3.1 of the 2006 IPCC Guidelines. The latter category of "controlled, not compacted SWDS" covers traditionally managed landfills, in which waste is deposited in uncompacted shallow layers, allowing aerobic decomposition to occur. This traditional management is well documented in legislation (14/04/1962 circulaire) of the Party, and is distinguished from all management types listed in table 3.1 in the 2006 IPCC Guidelines. Expert judgement of the Party assumed an MCF of 0.6 for these traditionally managed SWDS. Further, considering that many non-controlled and controlled, non-compacted landfills are remediated from the 1990s onwards, the Party assumed CH_4 generation to take place, assuming an MCF1 after remediation. The ERT considered that the definition of each landfill type had been significantly improved. Both emissions from traditionally managed SWDS and emissions from unmanaged SWDS after remediation are not specified in the 2006 Guidelines; therefore, the ERT agrees with the use of expert judgement of MCF and OX. However, the ERT further notes the following: (a) For unmanaged SWDS before remediation, the Party proposed to use an MCF of 0.6. This value is the same as the MCF specified in the 2006 IPCC Guidelines for uncategorized SWDS. However, considering the large amount of unmanaged SWDS in operation (3,000) and the amount of waste landfilled in those SWDS (10–20 Mt/year^{-1}), the average size of an unmanaged SWDS will be small and the original MCF of 0.5 might be conceivable for the whole time series; (b) For unmanaged SWDS after remediation, the Party proposed to use an MCF of 1. No guidance is given on	Yes. Accuracy

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and/or a problem?[b] If yes, classify by type

remediation for this type of SWDS in the 2006 IPCC Guidelines. The ERT notes that, under aerobic conditions, biodegradable organic carbon will be relatively rapidly converted to CO_2 (in a process comparable to composting), so that the CH_4 generation potential from this part will be removed permanently before the introduction of remediation. Therefore, after remediation, the ERT considers that the application of an MCF of 0.5 is justifiable;

(c) For traditionally managed SWDS as defined by the Party, no IPCC default value is available. Therefore, the Party proposed to apply a value of 0.6. Traditionally managed SWDS might be best described as SWDS of in-situ aerobically pretreated municipal solid waste. After 10 years have passed since the last traditionally controlled SWDS was created, it is unlikely that the measurement of CH_4 emissions is conducted. Therefore expert judgement is necessary to quantify the CH_4 emissions from these SWDS. The ERT considers the reasonable judgement is an MCF of 0.5, the same as for semi-aerobic SWDS. This is because for both types of management, an objective is the same, namely to accelerate aerobic biodegradation of organic waste;

(d) For traditionally managed SWDS after closure, the Party proposes to use an MCF of 1. However, under aerobic conditions during the period in which the sites are open, biodegradable organic carbon will be relatively rapidly converted to CO_2 (in a process comparable to composting). Therefore, CH_4 generation potential will be removed permanently before the closure. Thus, after closure, the ERT considers that the continued application of an MCF of 0.5 is justifiable.

Therefore, based on the information provided by the Party, the ERT considers that, in calculating CH_4 emissions, the use of the following assumptions on MCFs and OX are the most appropriate in accordance with the 2006 IPCC Guidelines:

	MCF and OX in accordance with the conclusion of the ERT	French proposal for MCF and OX
unmanaged SWDS	MCF = 0.5; OX = 0	MCF = 0.6; OX = 0 (unremediated) MCF = 1; OX = 0.1 (remediated)
traditionally managed SWDS	MCF = 0.5; OX = 0	MCF = 0.6; OX = 0 (open) MCF = 1; OX = 0.1 (closed)
managed SWDS	MCF = 1; OX = 0.1	MCF = 1; OX = 0.1

The ERT notes that the revised submission by the Party results in higher CH_4 emissions, compared with the emission estimates applying the MCF and OX values as proposed by the ERT, and therefore it is not an underestimation of emissions.

The ERT recommends that the Party apply the values as suggested by the ERT and revise its estimates of CH_4 emissions or improve the justification of the values of MCFs and OX used for the revised estimates. In either case, the ERT recommends that the Party include in the NIR a clear description of landfill types and the application of MCFs and OX trends that are used for the emission estimates. In doing so, the ERT recommends that the Party use the terminology as used in the 2006 IPCC Guidelines (unmanaged SWDS instead of uncontrolled SWDS) and traditionally managed SWDS instead of managed, non-

ID[a]	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[b] If yes, classify by type
		compacted SWDS.	
W.15	5.A Solid waste disposal on land – CH_4	In the NIR (p.458), the Party indicated that, in 2015, about 18 Mt waste was deposited in SWDS for non-inert, non-hazardous waste and this amount serves as a basis for the inventory of CH_4 from SWDS. However, the additional information provided by the Party indicated that a large amount (64.7 Mt in 2014) of mineral waste was deposited in landfills for inert waste, but they are not considered in the GHG inventory of the waste sector. The Party explained that the waste in inert landfills is considered to be inert, without any biodegradable material in the mix. Due to the low organic content and the lack of nutrients, methanogenic conditions are not likely to occur. Accordingly, CH_4 emissions from mineral waste in inert landfills were considered insignificant. The ERT did not agree with this explanation, because the terminology used to characterize the waste "construction waste" or "mineral waste" and the "SWDS for inert waste" indicates the possibility that the waste contains carbon content considering that the 2006 IPCC Guidelines indicate the default carbon content as 3 per cent for inert waste (volume 5, chapter 2, table 2.4). In response to further questions raised by the ERT, the Party provided its definition of mineral waste, namely that it consists of categories 40 (mineral waste from construction and demolition), 42 (other mineral wastes) and 46 (soils) of the European Commission classification of waste (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:253:0002:0041:EN:PDF). Considering this definition, the ERT noted that the characteristics of "mineral waste" in these "SWDS for inert waste" of the Party significantly differs from "construction and demolition waste" for which the 2006 IPCC Guidelines define a default DOC (volume 5, chapter 2, table 2.5). The ERT also noted that the definition of mineral waste and the assumption of negligible DOC it contains was developed when the French Statistical Office gathered its information on the amount of waste generated and treated, and it is not an interpretation made by the French GHG inventory compilers. Therefore, the ERT agrees with the assumption that the landfilling of this mineral waste results in negligible CH_4 emissions. The ERT recommends that France include in the next annual submission a description of the amount and nature of the mineral waste landfilled, along with a justification for the assumption that this waste results in negligible CH_4 emissions.	Yes. Transparency
W.16	5.B.2 Anaerobic digestion at biogas facilities – CH_4	The ERT noted that France quantified CH_4 emissions from anaerobic digestion as 5 per cent of CH_4 generation. The 2006 IPCC Guidelines (volume 5, chapter 4, p.4.4) state that emissions of CH_4 from such facilities due to unintentional leakages during process disturbances or other unexpected events will generally be between 0 and 10 per cent of the amount of CH_4 generated. In the absence of further information, 5 per cent should be used as the default value. However, the ERT considers that sufficient information is available to quantify the emissions using the methodology based on the amount of solid waste treated in anaerobic digesters and applying the default EF for composting of 4 g CH_4 per kg wet waste treated (see the 2006 IPCC Guidelines, volume 5, chapter 4, table 4.1). The ERT recommends that France justify the use of the current methodology for estimating CH_4 emissions from anaerobic digestion, or quantify the emissions by applying the EF from 2006 IPCC Guidelines, volume 5, chapter 4, table 4.1, directly to the amount of waste digested, since the amount of waste digested is available and specified in CRF table 5.B.	Yes. Accuracy
KP-LULUCF			
KL.25	General (KP-LULUCF) –	The ERT noted that France reported "IE" for information on harvested and converted forest plantations in CRF table 4(KP-	Yes.

ID	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue and or a problem?[a] If yes, classify by type
	CO_2	1)B.1 and for the area of activities resulting from conversions to eligible land activities in table NIR-2. France also reported "NE" in CRF table B.2 on CM and CRF table B.3 on GM for the activities that France did not elect to account for in the second commitment period of the Kyoto Protocol. The ERT recommends that the Party use the notation key "NA" in accordance with footnote 2 to CRF table NIR-2 for the activities that France did not elect to account for in the second commitment period of the Kyoto Protocol.	Comparability

[a] Recommendations made by the ERT during the review are related to issues as defined in paragraph 81 of the UNFCCC review guidelines, or problems as identified in paragraph 69 of the Article 8 review guidelines. Encouragements are made to the Party to address all findings not related to such issues or problems.

VI. Application of adjustments

11. The ERT has not identified the need to apply any adjustments to the 2017 annual submission of France.

VII. Accounting quantities for activities under Article 3, paragraph 3, and, if any, activities under Article 3, paragraph 4, of the Kyoto Protocol

12. France has elected commitment period accounting and therefore the issuance and cancellation of units for KP-LULUCF activities is not applicable for the 2017 review.

VIII. Questions of implementation

13. No questions of implementation were identified by the ERT during the review.

Annex I

Overview of greenhouse gas emissions and removals for France for submission year 2017 and data and information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, as submitted by France

1. Tables 7–10 provide an overview of total GHG emissions and removals as submitted by France.

Table 7
Total greenhouse gas emissions for France, base year[a]–2015
(kt CO_2 eq)

	Total GHG emissions excluding indirect CO_2 emissions		*Total GHG emissions including indirect CO_2 emissions[b]*		*Land-use change (Article 3.7 bis as contained in the Doha Amendment)[c]*	*KP-LULUCF activities (Article 3.3 of the Kyoto Protocol)[d]*	*KP-LULUCF activities (Article 3.4 of the Kyoto Protocol)*	
	Total including LULUCF	*Total excluding LULUCF*	*Total including LULUCF*	*Total excluding LULUCF*			*CM, GM, RV, WDR*	*FM*
FMRL								–67 410.00
Base year	523 021.08	549 500.20	NA	NA	NA		NO	
1990	523 031.30	549 510.42	NA	NA				
1995	517 433.15	546 207.70	NA	NA				
2000	530 668.70	553 752.71	NA	NA				
2010	473 461.00	512 806.49	NA	NA				
2011	449 759.28	485 620.47	NA	NA				
2012	439 910.10	484 670.89	NA	NA				
2013	437 693.63	482 786.99	NA	NA		1 910.41	NO, NE	–57 492.46
2014	414 846.66	454 707.06	NA	NA		1 532.84	NO, NE	–52 816.49
2015	422 507.55	458 317.32	NA	NA		1 341.55	NO, NE	–48 864.80

Note: Emissions/removals reported in the sector other (sector 6) are not included in total GHG emissions.

[a] Base year refers to the base year under the Kyoto Protocol, which is 1990 for all gases except NF_3, for which the base year is 1995. France has not elected any activities under Article 3, paragraph 4, of the Kyoto Protocol. For activities under Article 3, paragraph 3, of the Kyoto Protocol and FM under Article 3, paragraph 4, only the inventory years of the commitment period must be reported.

[b] The Party has not reported indirect CO_2 emissions in CRF table 6.

[c] The value reported in this column refers to 1990.

[d] Activities under Article 3, paragraph 3, of the Kyoto Protocol, namely AR, and deforestation.

Table 8

Greenhouse gas emissions by gas for France, excluding land use, land-use change and forestry, 1990–2015

(kt CO_2 eq)

	CO_2[a]	CH_4	N_2O	HFCs	PFCs	Unspecified mix of HFCs and PFCs	SF_6	NF_3
1990	399 674.11	71 547.77	66 448.96	4 402.20	5 202.47	NO, NA	2 218.42	16.48
1995	397 824.82	73 345.23	67 481.09	1 890.62	3 064.56	NO, NA	2 595.11	6.26
2000	414 662.81	71 693.18	55 390.11	6 611.84	2 997.49	NO, NA	2 377.39	19.89
2010	388 052.34	63 492.81	42 368.65	17 355.64	617.37	NO, NA	887.55	32.13
2011	362 299.21	62 493.27	40 811.80	18 551.98	774.04	NO, NA	658.82	31.36
2012	362 347.73	60 924.80	40 965.18	18 955.69	790.35	NO, NA	666.74	20.40
2013	361 903.83	59 712.01	40 747.49	19 146.83	670.50	NO, NA	595.70	10.63
2014	331 744.38	60 382.42	42 092.58	19 384.60	603.83	NO, NA	488.61	10.63
2015	336 665.95	59 426.02	41 889.97	19 263.86	540.18	NO, NA	520.70	10.63
Per cent change 1990–2015	**–15.8**	**–16.9**	**–37.0**	**337.6**	**–89.6**	**NA**	**–76.5**	**–35.5**

Note: Emissions/removals reported in the sector other (sector 6) are not included in total GHG emissions.

[a] France did not report indirect CO_2 emissions in CRF table 6.

Table 9

Greenhouse gas emissions by sector for France, 1990–2015

(kt CO_2 eq)

	Energy	IPPU	Agriculture	LULUCF	Waste	Other
1990	380 315.69	66 921.26	83 515.07	–26 479.12	18 758.39	NO
1995	379 614.94	63 553.34	81 002.27	–28 774.56	22 037.15	NO
2000	392 868.08	53 546.29	84 200.33	–23 084.01	23 138.02	NO
2010	366 664.61	46 711.98	78 355.61	–39 345.49	21 074.29	NO
2011	340 680.65	46 475.64	77 943.27	–35 861.19	20 520.91	NO
2012	342 705.24	44 617.15	77 633.17	–44 760.79	19 715.33	NO
2013	342 228.93	44 943.90	76 408.13	–45 093.36	19 206.04	NO
2014	311 002.39	45 248.62	79 448.96	–39 860.40	19 007.09	NO
2015	316 860.83	44 597.01	78 962.76	–35 809.76	17 896.72	NO
Per cent change 1990–2015	**–16.7**	**–33.4**	**–5.5**	**35.2**	**–4.6**	**NA**

Notes: (1) Emissions/removals reported in the sector other (sector 6) are not included in total GHG emissions. (2) France did not report indirect CO_2 emissions in CRF table 6.

Table 10

Greenhouse gas emissions/removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol by activity, base year[a]–2015, for France

($kt CO_2 eq$)

	Article 3.7 bis as contained in the Doha Amendment[b]	*Article 3.3 of the Kyoto Protocol*		*FM and elected Article 3.4 activities of the Kyoto Protocol*				
	Land-use change	*AR*	*Deforestation*	*FM*	*CM*	*GM*	*RV*	*WDR*
FMRL				–67 410.00				
Technical correction				21 795.00				
Base year	NA				NO	NO	NO	NO
2013		–9 278.99	11 189.40	–57 492.46	NE	NE	NE	NE, NO
2014		–9 613.26	11 146.10	–52 816.49	NE	NE	NE	NE, NO
2015		–9 843.11	11 184.66	–48 864.80	NE	NE	NE	NE, NO
Per cent change Base year–2015					**NA**	**NA**	**NA**	**NA**

Note: Values in this table include emissions on lands subject to natural disturbances, if applicable.

[a] Base year refers to the base year under the Kyoto Protocol, which is 1990 for all gases except NF_3, for which the base year is 1995. France has not elected any activities under Article 3, paragraph 4, of the Kyoto Protocol. For activities under Article 3, paragraph 3, of the Kyoto Protocol and FM under Article 3, paragraph 4, only the inventory years of the commitment period must be reported.

[b] The value reported in this column refers to 1990.

2. Table 11 provides an overview of relevant key data for France's reporting under Article 3, paragraphs 3 and 4, of the Kyoto Protocol.

Table 11
Key relevant data for France under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

Key parameters	*Values*
Periodicity of accounting	(a) AR: commitment period accounting
	(b) Deforestation: commitment period accounting
	(c) FM: commitment period accounting
	(d) CM: not elected
	(e) GM: not elected
	(f) RV: not elected
	(g) WDR: not elected
Election of activities under Article 3, paragraph 4	None
Election of application of provisions for natural disturbances	Yes, for AR and FM
3.5% of total base-year GHG emissions, excluding LULUCF and including indirect CO_2 emissions	19 181.951 kt CO_2 eq (153 455.612 kt CO_2 eq for the duration of the commitment period)
Cancellation of AAUs, ERUs, CERs and/or issuance of RMUs in the national registry for:	
1. AR in 2015	NA
2. Deforestation in 2015	NA
3. FM in 2015	NA
4. CM in 2015	NA
5. GM in 2015	NA
6. RV in 2015	NA
7. WDR in 2015	NA

Annex II

Information to be included in the compilation and accounting database

Tables 12–14 include the information to be included in the compilation and accounting database for France. Data shown are from the original annual submission of the Party, including the latest revised estimates submitted, adjustments (if applicable) as well as the final data to be included in the compilation and accounting database.

Table 12
Information to be included in the compilation and accounting database for 2015, including on the commitment period reserve, for France
($t CO_2 eq$)

	Original submission	*Revised estimates*	*Adjustment*	*Final*
CPR	2 713 243 349			2 713 243 349
Annex A emissions for 2015				
CO_2	336 587 891	336 665 946		336 665 946
CH_4	58 905 165	59 426 024		59 426 024
N_2O	41 300 151	41 889 970		41 889 970
HFCs	19 263 865			19 263 865
PFCs	540 179			540 179
Unspecified mix of HFCs and PFCs	NO, NA			NO, NA
SF_6	520 704			520 704
NF_3	10 630			10 630
Total Annex A sources	**457 128 583**	**458 317 316**		**458 317 316**
Activities under Article 3, paragraph 3, of the Kyoto Protocol for 2015				
3.3 AR	–9 843 115			–9 843 115
3.3 Deforestation	11 184 662			11 184 662
FM and elected activities under Article 3, paragraph 4, of the Kyoto Protocol for 2015				
3.4 FM	–48 864 799			–48 864 799

Table 13
Information to be included in the compilation and accounting database for 2014, for France
($t CO_2 eq$)

	Original submission	*Revised estimates*	*Adjustment*	*Final*
Annex A emissions for 2014				
CO_2	331 660 790	331 744 380		331 744 380
CH_4	59 834 147	60 382 423		60 382 423
N_2O	41 504 531	42 092 582		42 092 582
HFCs	19 384 604			19 384 604
PFCs	603 828			603 828
Unspecified mix of HFCs and PFCs	NO, NA			NO, NA
SF_6	488 610			488 610
NF_3	10 630			10 630
Total Annex A sources	**453 487 140**	**454 707 056**		**454 707 056**
Activities under Article 3, paragraph 3, of the Kyoto Protocol for 2014				
3.3 AR	–9 613 260			–9 613 260
3.3 Deforestation	11 146 098			11 146 098
FM and elected activities under Article 3, paragraph 4, of the Kyoto Protocol for 2014				
3.4 FM	–52 816 487			–52 816 487

Table 14
Information to be included in the compilation and accounting database for 2013, for France
(t CO_2 eq)

	Original submission	*Revised estimates*	*Adjustment*	*Final*
Annex A emissions for 2013				
CO_2	361 825 165	361 903 831		361 903 831
CH_4	59 134 461	59 712 012		59 712 012
N_2O	40 171 479	40 747 494		40 747 494
HFCs	19 146 831			19 146 831
PFCs	670 495			670 495
Unspecified mix of HFCs and PFCs	NO, NA			NO, NA
SF_6	595 700			595 700
NF_3	10 630			10 630
Total Annex A sources	**481 554 762**	**482 786 994**		**482 786 994**
Activities under Article 3, paragraph 3, of the Kyoto Protocol for 2013				
3.3 AR	–9 278 991			–9 278 991
3.3 Deforestation	11 189 404			11 189 404
FM and elected activities under Article 3, paragraph 4, of the Kyoto Protocol for 2013				
3.4 FM	–57 492 458			–57 492 458

Annex III

Additional information to support findings in table 2

Missing categories that may affect completeness

The categories for which methods are included in the 2006 IPCC Guidelines that were reported as "NE" or for which the ERT otherwise determined that there may be an issue with the completeness of the reporting in the Party's inventory are the following:

(a) CO_2, CH_4 and N_2O emissions for category 1.B.2.a.1 oil exploration – liquid fuels (see ID# E.15 in table 3);

(b) CO_2 emissions for category 1.C CO_2 transport and storage – gaseous fuels (see ID# E.28 in table 6);

(c) SF_6 emissions for category 2.G.1 electrical equipment (see ID# I.9 in table 5);

(d) CO_2 emissions for category 2.A.2 lime production (see ID# I.10 in table 6);

(e) N_2O emissions for category 3.D.a.2.a animal manure applied to soils (see ID# A.26 in table 6);

(f) N_2O emissions for category 3.D.a.5 mineralization/immobilization associated with loss/gain of soil organic matter (1990, 1992 and 1993) (see ID# A.28 in table 6);

(g) CO_2, CH_4 and N_2O emissions from not accessible forest land in metropolitan France (see ID# L.14 in table 3);

(h) CO_2 emissions and removals from living biomass for cropland remaining cropland in overseas territories (see ID# L.18 in table 3);

(i) CO_2 emissions and removals from land converted to perennial crops in overseas territories (see ID# L.19 in table 3);

(j) CO_2 emissions from biomass losses from conversion of perennial crops to other land uses in overseas territories (see ID# L.20 in table 3);

(k) CO_2 and N_2O emissions from biomass and soil carbon stock changes in overseas territories (see ID# L.21 in table 3);

(l) Biomass and soil carbon stock changes and associated CO_2 and N_2O emissions from biomass and soil carbon stock changes on grassland remaining grassland and land converted to grassland in overseas territories (see ID# L.25 in table 3);

(m) SOC losses and associated CO_2 and N_2O emissions originating from conversion of cropland, grassland, wetlands and settlements to other land (see ID# L.28 in table 3);

(n) For the overseas territories: forest area and forest area changes, forest areas subject to natural disturbances, forest biomass carbon stock gains and forest biomass carbon stock losses associated with harvesting and with natural disturbances (see ID# KL.2 in table 3);

(o) Biomass net carbon stock changes for FM and AR for overseas territories (see ID# KL.10 in table 3).

Annex IV

Documents and information used during the review

A. Reference documents

IPCC reports

Intergovernmental Panel on Climate Change. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html.

Intergovernmental Panel on Climate Change. 2014. *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*. Available at http://www.ipcc-nggip.iges.or.jp/public/kpsg.

Intergovernmental Panel on Climate Change. 2014. *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*. Available at http://www.ipcc-nggip.iges.or.jp/public/wetlands/index.html.

Annual review reports

Reports on the individual reviews of the 2013, 2014, 2015 and 2016 annual submissions of France, contained in documents FCCC/ARR/2013/FRA, FCCC/ARR/2014/FRA, FCCC/ARR/2015/FRA and FCCC/ARR/2016/FRA, respectively.

Other

Aggregate information on greenhouse gas emissions by sources and removals by sinks for Parties included in Annex I to the Convention. Note by the secretariat. Available at http://unfccc.int/resource/webdocs/agi/2017.pdf.

Annual status report for France for 2017. Available at http://unfccc.int/resource/docs/2017/asr/fra.pdf.

CITEPA. 2017. *Organisation et méthodes des inventaires nationaux des émissions atmosphériques en France. OMINEA - 14ème édition*. Available at http://www.citepa.org/fr/activites/inventaires-des-emissions/ominea.

B. Additional information provided by the Party

Responses to questions during the review were received from Ms. Pascale Vizy (Ministry of the Environment, Energy and the Sea), including additional material on the methodology and assumptions used. The following documents[1] were also provided by France:

ADEME (Agence de l'Environnement et de la Maîtrise de l'Energie). 2009. *Biomasse forestière, populicole et bocagère disponible pour l'énergie à l'horizon 2020*. Available at: http://www.ademe.fr/sites/default/files/assets/documents/biomasse-forestiere-populicole-et-bocagere-2009.pdf.

ADEME (Agence de l'Environnement et de la Maîtrise de l'Energie). 2012. *Programme de Recherche de « L'ademe sur les Emissions Atmospheriques du Compostage,Connaissances Acquises et Synthèse Bibliographique*. (ADEME Research Programme for the Atmospheric Emissions from Composting, Acquired Knowledge and Synthesis of Literatures). Paris: ADEME Available at http://www.ademe.fr/.

[1] Reproduced as received from the Party.

Amant, S. et Gassiat, C. 2014. *Méthode Opérationnelle de Comptabilisation des Produits-bois dans L'inventaire National GES* (Operational Method for Accounting HWP in the National Greenhouse Gas Inventories, Technical Report). Paris. Ministère de L'environnement, de L'énergie et de la Mer, en Charge des Relations Internationales sur le Climat. Available at http://www.statistiques.developpement-durable.gouv.fr/accueil.html.

Dépôt légal. 2017. *Bilan 2014 de la Production de Déchets en France* (Record 2014 of Waste Production in France). Paris. Ministère de L'environnement, de L'énergie et de la Mer, en Charge des Relations Internationales sur le Climat. Available at http://www.statistiques.developpement-durable.gouv.fr/accueil.html.

Dépôt légal. 2017. *Entreprises du BTP: 227,5 millions de tonnes de déchets en 2014* (Construction and public work industries: 227.5 million tonn of waste in 2014). Paris. Ministère de L'environnement, de L'énergie et de la Mer, en Charge des Relations Internationales sur le Climat. Available at http://www.statistiques.developpement-durable.gouv.fr/accueil.html.

Mallard, P. et al. 2005. *Impacts Environnementaux de la Gestion Biologique des Dechets, Bilan des Connaissances* (Enviromental Impcat of Biological Treatment of Waste, Assessment Report). Paris: ADEME.